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Lectures.

COURSE OF SURGERY,

Delivered in the years 1846 *and* 1847,

By Bransby B. Cooper, F.R.S.
Surgeon, and Lecturer on Surgery at Guy's Hospital.

Lecture XXXI.

CONTINUATION OF THE ORBITAL REGION.

Diseases of the eyelids—tissues entering into their composition. Suppuration in the eyelids. Obstruction of punctum lachrymale. Ecchymosis—treatment. Entropium—its effect. Ectropium—comparative inconvenience and danger to the eye—operation for entropium and ectropium. Hordeola or styes. Encysted tarsal tumors—treatment. Wounds of the eyeball — treatment — intrusion of foreign bodies—mode of removal.

Diseases of the jaws. Osteo-sarcoma of the jaw—malignant character—extirpation—mode of operating. Tumors from the antrum and upper jaw not always malignant—operation for removal—mode of proceeding—case.

Region of the neck. Character of the neck—anatomical relations. The pharyngeal region—its limits—the pharynx subject to the lodgment of foreign bodies—their extraction—opening the trachea. Abscesses—evacuation of the pus—necessary precautions—case. Ulcers in the pharynx. Anterior region of the neck—definition. Supra hyoideal region — "cut throat" — treatment — tumors. Laryngo-pharyngeal region. Frequency of wounds in attempt at suicide—wound of lingual artery—case. Various attendant considerations, and mode of treatment.

Diseases of the eyelids.—Before we begin to treat of the diseases of the eyelids, it is proper to give some consideration to the various structures which enter into the composition of these parts, as it is evident that the eyelids must be liable to the diseases incident to each of their tissues,—these are, skin, cellular membrane, muscular fibre, tendon, fibro-cartilage, mucous membrane, and the cilia.

Of the skin of the eyelids there is little further to remark than that it is subject to the eruptions common to the integuments of the other parts of the body; and there is nothing peculiar to it beyond what may arise from its extreme tenuity.

The cellular membrane is remarkable for the freedom of the connection between its cells. The muscular apparatus of the eyelid, in common with the muscular system of other parts of the body, is subject to no other disease than that arising from morbid irritability, producing a constant twitching or "winking" of the eyelids. The tendon of the levator palpebræ, which is inserted into the fibro-cartilage, constituting the tarsus, is, like all tendinous tissues, as well as the fibro-cartilage into which it is inserted, from its slight degree of vitality, readily disposed to slough under a very slight degree of inflammation. When the tarsus becomes affected it frequently leads to great interference with the functions of the lid. The mucous membrane of the eyelids is also liable to the peculiar diseases of this tissue, such as ophthalmia, &c. The structures connected with the hairs of the cilia sometimes become diseased, and this also constitutes one of the morbid conditions to which the eyelids are liable.

Suppuration of the eyelids.—Owing to the loose character of the cellular membrane of the eyelids, they are very liable to suppurate under inflammation, whether it proceed from disease or injury; and as this affection causes great swelling, and interferes with the motion of the upper lid, it is necessary that the matter should be early evacuated; and as it usually attacks persons of a weak strumous habit, tonic medicines will also be requisite. In erysipelas such abscesses often occur, and unless the matter is let out sloughing very soon results. In evacuating the matter the incisions should be curved, following the direction of the fibres of the orbicularis palpebræ muscle, so that the cicatrix may be hidden in the natural folds of the skin of the eyelid, and the deformity avoided that would result if the incision were at right angles to the muscular fibre. Small circumscribed tumors frequently obstruct the punctum lachrymale, so as to cause a flowing of tears over the cheek. This may be mistaken for fistula lachrymalis; but the comparatively slight pain in palpebral abscess, and the great inconvenience attendant upon inflammation of the lachrymal sac, constitute the diagnostic distinction between them. In opening the abscess, great care must be taken not to injure the punctum lachrymale, as permanent disease would result from its obliteration.

Ecchymosis. — Extravasation of blood into the eyelids, technically termed ecchymosis, frequently results from external injury. The removal of this coagulum by incision should never be attempted, as a few leeches, and poultices composed of the bryony root scraped and mixed with bread, will be generally found sufficient to the purpose.

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I am of opinion that in all cases of ecchymosis more injury is done by the incision to remove the coagulum than would be effected by the presence of the blood itself. A spontaneous ecchymosis, or effusion of blood into the eyelids, sometimes occurs, and is characteristic of great constitutional deterioration, and especially of an impoverished condition of the blood. This appearance should at once create considerable alarm; and the treatment required is similar to that necessary in the hæmorrhagic tendencies—such as acids, bark, and generous diet.

Entropium or inversion, and *Ectropium* or eversion, of the eyelids, not infrequently results either from disease or injury to these organs, but more particularly to their fibro-cartilaginous portions.

In Entropium, the free edge of one or both of the eyelids is turned inwards upon the globe of the eye, with the surface of which the eyelashes are brought in contact. Violent inflammation results, and if the disease be not removed, the transparency of certain parts of the organ becomes impaired from a deposition of lymph, large bloodvessels from the conjunctiva shoot across the cornea, ulceration of the latter membrane soon follows, and the eye would perish unless the disease be cured.

Ectropium, or eversion of the eyelid, produces at first much less suffering, as in this case the conjunctival surface of the eye is not subjected to the irritative action of the cilia; but if the disease be allowed to remain, the tunica conjunctiva of the eyeball being unprotected by the affected lid, and losing the beneficial lubricating influence of the tears, soon becomes inflamed from the action of the air; and by the lodgment of extraneous particles of matter, the inflammation proceeds to opacity of the cornea, and ultimately to the destruction of vision. The deformity in this disease is even greater than in entropium;—in consequence of the large inflamed mucous surface exposed to view, the cornea ulcerates, the anterior chamber of the eye is laid open, the aqueous tumor escapes, and the organ is very soon completely destroyed. The inferior lid is most frequently the seat of this affection.

These diseases may occur from an altered condition of the tunica conjunctiva, of the skin of the eyelid, or from disease of the fibro-cartilage which constitutes the tarsus. Entropium sometimes results from a relaxed state of the skin of the eyelid, with the exception of that at the ciliary edge, so that there exists an unequal degree of resistance to the orbicular muscle of the eyelids, and a tendency to inversion is established. The deformity arising from this cause may be cured by taking up a fold of the loose skin, and cutting out a longitudinal slip, after which the excised edges must be perfectly adapted, and kept together by uninterrupted suture, the contraction of the cicatrix removing the inversion. Some surgeons have recommended that the skin should be removed by strong sulphuric acid, but I consider the excision of a portion of the integument far preferable. When disease of the tarsus causes either entropium or ectropium, a portion of that structure must be removed; this is best effected by passing a needle, armed with silk, through the ciliary edge of the lid, so as to give perfect command of this moveable part. A triangular portion of the lid is now to be excised, and the incised edges adapted by suture. The surgeon is able to judge of the quantity which it is desirable to remove, by examining the relation of the lid to the globe of the eye before he operates. When thickening of the conjunctiva produces ectropium, or a cicatrix in it, entropium, the operative means must be applied to this membrane.

Tumors of the palpebræ frequently interfere both with the motions of the eyelid and with the conjunctival surface of the eyeball: the most common of these are hordeola, or "styes," which require little or no further treatment than the application of cold, or a poultice. Sometimes, however, the matter will not make its escape by the process of ulceration, when a small opening should be made, the pus evacuated, and nitrate of silver applied to the wound. I have lately had under my care a gentleman from Cambridge, with so obstinate a case of this disease that I was induced to call in the aid of Mr. Dalrymple, to consult with him on the propriety of its removal; but as the stye was placed very near to the inferior punctum lachrymale, he recommended merely to lay it open, and touch it with lunar caustic more completely than I had done; but the tumor is not yet, however, perfectly removed.

Encysted tarsal tumors also often produce considerable inconvenience; the tumor gives the sensation as if it were placed between the skin and the outer surface of the tarsus; but if their extirpation be thought necessary, they should be removed from the inner side by everting the lid: usually, however, merely puncturing the sac, and passing a small probe into its interior to break it down, will be sufficient to cure it. Such is the operation usually recommended. I have, however, frequently removed them in the following manner: everting the lid, removing a portion of the mucous membrane covering the tumor, and, with a pair of bent-bladed scissors laid flat on the tarsus, cut off the whole tumor.

In cases of loss of portions of the eyelids, either from ulceration or wounds, plastic operations, for the purpose of forming or restoring a covering to the eyeball, are sometimes had recourse to.

In *wounds* of the eyeball, the danger accruing depends upon the extent and depth of the lesion. The first great object, in case of such an accident, is to subdue at once the inflammation by strict antiphlogistic means, and opening the temporal artery should almost always be had recourse to; for, if the inflammation be allowed to pass into a chronic state, instead of being completely subdued, the delicate tissues of the eye are almost certain to become impaired, and the power of vision be either wholly lost or permanently diminished. It is hardly necessary to mention that the patient should be kept in a state of darkness, upon low diet, and the bowels freely acted upon during the progress of his cure.

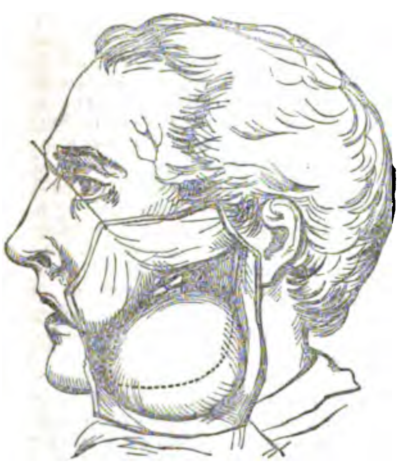
Foreign bodies are often intruded into the eye, more especially since the establishment of railroads; they are, however, easily removed by everting the upper lid: by turning it over a probe pressed just above the tarsus, nearly the whole of the conjunctival surface may be thus exposed, and any small particles may be easily removed by the corner of a cambric handkerchief; if, however, a particle of iron, or such-like substance, should become imbedded in the cornea, it must be removed by a "couching needle:" cold lotions, or leeches, may afterwards be required to subdue inflammation.

Diseases of the jaws.—The jaws are subject to disease, which frequently renders their removal necessary; they, therefore, occupy a prominent and highly important position in the surgery of the region of the face.

Osteo-sarcoma sometimes attacks the lower jaw.—(Vide Fig. 1.) The malignant character of this disease, which is indicated by its physical characteristics and the peculiar diathesis of the patient, renders its extirpation the only alternative for the surgeon. To remove the portion of the lower jaw thus contaminated, a bold and extensive incision must be made through the soft parts covering the bony tumor, the course of the knife following the curvature of the jaw close to its lower margin. An incision is then to be made at either end of the first incision, and at right angles to it; one portion of the integument is to be dissected from the jaw upwards, and the other downwards, so that the bony tumor is completely exposed. The jaw is now to be sawn through at the extremities of the first incision; and when divided, must be depressed and everted, so that the soft parts adhering to the inside may be dissected off; the muscles attached to its base are then to be cut through, and the bone, thus liberated, removed. The facial artery is generally divided in the first incision, and had better be tied immediately, or the hæmorrhage interferes with the after steps. It is necessary to extract a tooth at the point where the jaw is to be cut through, and this should be done previous to the operation, whether the chain or common saw be applied. If the chain saw is adopted, it must be passed behind the jaw, close to the bone, by means of a needle: the action of the saw being from within to without. After the removal of the bone the soft parts are brought together, and retained by suture. If the disease be situated so near to the condyle as to preclude the possibility of sawing through between the diseased part and the articulation, the disarticulation of the jaw must be resorted to. In this case the saw is employed only on the symphysis side of the disease; and when the soft parts are dissected off, as in the former case, the surgeon takes hold of the diseased part of the bone, and directing it outwards and slightly backwards, opens the front part of the temporo-maxillary articulation, continuing the knife backwards so as to divide the ligaments of the joint, then cutting through the temporal and pterygoideus externus muscles, the diseased part is extirpated. Bleeding vessels are then to be secured, and the edges of the wound neatly approximated, and maintained in coaptation by sutures. If there be any enlarged glands, or other signs of the propagation of the disease to the surrounding tissues, it would be equally useless and cruel to recommend this operation.

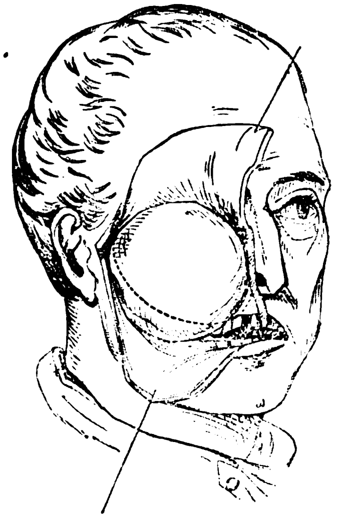
Tumors growing from the antrum—(vide Fig. 2)—frequently lead to the most dreadful deformities, interfering, at the same time, with the functions of the eye, nose, and mouth; but as these growths are not always of a malignant character, the removal of large portions of the upper jaw for their extirpation may be regarded as an admissible operation, when the diagnostic marks offer a just hope of its effectiveness. The mode of performing this operation is as follows:—An incision is to be made, commencing on the outer side of the orbit, and carried through the cheek to the angle of the mouth; a second incision is to be made through the commissure of the upper lip, extending quite to the septum of the nose, and continued upwards so as to separate the ala from the cheek, passing also up the side of nose, exposing the nasal process of the superior maxillary bone; a flap is thus formed, which may be turned upwards, exposing the whole of the tumor; or if it be so large, or situated so far back, that this flap does not expose the whole, another incision may be made, extending backwards in the course of the zygomatic arch, which will afford additional exposure of the parts. The teeth being, as in the former case, drawn at the point where the bone is intended to be cut through, the jaw is to be divided by the cutting forceps through the alveolar processes, the palatine processes, and the remaining osseous attachments which prevent the extirpation of the disease. An able assistant is required during this operation, to compress the bleeding arteries until it is completed, when they must be secured by ligature, and the soft parts must be carefully adapted, being well supported by a dossil of lint or a piece of soft sponge, filling up the immense cavity which has been made. It is impossible to describe, in this general manner, the precise parts at which the section of the bone may require to be made, as it depends wholly upon the extent and direction of the tumor. Hence it is most essential that any surgeon, however bold or expert, should thoroughly make himself acquainted with the precise attachments of the diseased mass, and perfectly make up his mind upon the mode of procedure he intends to adopt, before he commences the operation. I have lately removed a cartilaginous tumor, growing from the antrum of a child about eleven years of age; but, as it had not acquired a very great size, of course the extent of the incisions, or quantity of bone to be removed, was proportionately smaller, compared with the operation I have just before described.

FIG. 1.



Osteo-sarcoma of the lower jaw. The dotted line shews the direction of the incision through the integuments, which are dissected off, exposing the bony excrescence.

FIG. 2.



Tumor of the upper jaw exposed by the removal of the soft parts. The dotted line shews the direction of the first incision; one of the teeth is drawn, to shew the point at which the bone is to be cut away by the bone-nippers.

THE REGION OF THE NECK.

The neck is placed between the thorax and the cranium, and constitutes a continuation of the spine, so that it must be considered rather as an appendix to the trunk than to the head, although Professor Okie, and some other physiologists, consider the bones of the skull as mere modifications of the form of the vertebræ. Seven vertebræ compose the osseous portion of the neck; and it is worthy of remark, that all mammalia, from the giraffe to the mole, possess the same number of cervical vertebræ. The chain of bones constituting the neck is attached above to the cranium, posterior to the centre of gravity of the skull, leaving a large space between the four upper cervical vertebræ and the lower jaw; this space is occupied by the organs of mastication, deglutition, and respiration, while the three lower bones of the cervical spine are curved more forward, and brought within the central line of gravity of the skull; but these are still destined to support portions of the alimentary and respiratory apparatus. Thus it will be observed that the neck is not only, as far as refers to bone, the connecting medium between the trunk and the head, but that all the organs which are situated in the region may be considered as extrinsic to it, and forming connecting media between the commencement of the organs of mastication, and stomach, and the respiratory passages, and the lungs. But besides these organs, the natural contour of the neck is made up of various muscles intrinsically belonging to the important organs I have described, as well as of those muscles which move the head upon the spine, and attach the cervical region to the trunk. All of these structures, as well as the head itself, having to be supplied with blood, large arteries and veins pass through the neck to maintain the circulation; numerous nerves also traverse this region in their course from the brain to the organs of respiration and digestion, and the cellular membrane and skin make up its remaining constituents.

Although the length of the neck is to be attributed to its osseous development, there is still a great variety in the apparent proportionable length of this region in different individuals; but this is more to be attributed to the development and formation of the chest than to the construction of the neck itself—a short narrow thorax giving the appearance of an elongated neck, pathologically indicative of a pulmonic diathesis, while a fully developed, deep thorax, encroaches on the cervical region, indicating a plethoric, if not an apoplectic tendency: this inference would almost naturally be drawn owing to the approximation of the heart to the brain.

In a surgical point of view these considerations are important, inasmuch as operations in the region of the neck, such as the removal of tumors and tying of arteries, are difficult where the neck is short and stout, and become comparatively easy in proportion to its attenuation.

The pharyngeal region.—The pharynx must be considered as constituting a portion of the neck; for although in a surgical point of view the neck is considered as being bounded above by the lower jaw, and below by the sternum and clavicle, still the pharynx, composed of a layer of muscles, is placed behind the bones of the face, and in front of the four superior cervical vertebræ. It is fixed above to the cuneiform process of the occipital bone in its centre to the maxillary bones, and cornua of the os hyoides, and below to the thyroid and cricoid cartilages; while posteriorly it is connected by loose cellular membrane to the muscles on the anterior aspect of the spine. In front it communicates with the posterior nares, mouth, eustachian tubes, and glottis; so that it can scarcely be considered as possessing any anterior parietes, until below the level of the glottis, where it terminates in the œsophagus.

The pharynx as an organ of deglutition, is frequently liable to the lodgment of foreign bodies, and, as I have already said, is so intimately connected with other important openings, especially with that of the respiratory canal, that so great an inconvenience of necessity must arise from any obstruction as to render imperative the immediate removal of the extraneous matter; and in consequence of the communication of the pharynx with the mouth and fauces, instruments can be readily introduced for the purpose of their extraction. Instances have been known, however, of suffocation occurring from portions of meat or other substances sticking in the pharynx, and preventing the passage of air into the glottis, producing immediate asphyxia. If you were called to a patient under these circumstances, gentlemen, and had no efficient instruments for the removal of the body, you should immediately open the trachea, so as to admit air to the lungs, and thus give time subsequently to remove the cause of the danger.

Abscesses sometimes form in the loose cellular membrane, between the pharynx and the spine: the pressure of these gives rise to symptoms very similar to those in case of obstruction produced by the presence of a foreign body, but in the former case premonitory symptoms form sufficiently clear diagnostic works. When, therefore, dysphagia and dyspnœa result, preceded by pain in swallowing, fibrile action and rigors, and upon examination a tumor presents itself, there is sufficient evidence of the presence of an abscess, the evacuation of which at once relieves the urgency of the symptoms.

In effecting this, some little caution is necessary; as, for instance, the tongue should not be drawn forward for the purpose of obtaining the best view of the abscess; for, although advantage is gained by this procedure, it is more than counterbalanced by the liability of the pus to flow at once into the glottis, which would be widely opened by the protention of the tongue. The pus should be early evacuated, as, in consequence of the laxity of the cellular membrane between the pharynx and the anterior muscle of the spine, there is considerable tendency for the matter to make its way downwards even into the chest. Sometimes the abscess is so far down the pharynx as to be beyond ocular detection. In such a case the passage of an œsophageal bougie will sometimes not only detect the seat of the abscess, but also cause its rupture, and the evacuation of the matter.

I was sent for to a lady who resided in Westbourne Terrace, and who, after an attack of cynanche tonsillaris, was seized with difficulty of swallowing and breathing, preceded by distinct rigor, and a deep-seated fixed pain in the region of the larynx. I ordered fomentations, and promised to call again in the evening. This I did, taking with me a bougie, which I passed down the œsophagus and my patient was immediately relieved by the evacuation of a large quantity of pus, which she brought up in vomiting.

An abscess may, however, result from caries of the bodies of the vertebræ, and instances have been known of portions of exfoliated bone being vomited from the stomach. The after-treatment in such cases must be regulated according to whether the affection results from strumous diathesis, or syphilitic taint.

Ulcers on the pharynx are not common, unless they proceed from secondary or tertiary sores, when they of course require to be treated by iodine, and other alterative remedies.

ANTERIOR REGION OF THE NECK.

When we view the neck on its anterior aspect, several important projections and depressions present themselves, occupying an inverted triangular space lying between the two anterior edges of the sterno-cleido-mastoidei muscles.

Commencing from above, the symphysis of the lower jaw offers the most prominent point of relief. It is to be considered when the jaw is closed, and forming a right angle with the axis of the body, just below, and an inch and a half behind, the symphysis may be seen (especially in thin persons); a second projection, which marks the situation of the os hyoides; a quarter of an inch below this, the edge of the thyroid cartilage presents itself, forming a third eminence, from whence the larynx takes its commencement, terminating at the lower edge of the cricoid cartilage, its vertical length being about two inches. The thyroid gland forms the next projection, the prominence of which varies in different individuals. From the lower edge of the crycoid cartilage to the sternum measures two inches and a half; and in taking the dimensions of the part, it is better to measure from the cartilage than the gland, as the latter is sometimes difficult to define. Just above the sternum, the supra-sternal cavity is placed; this space is formed by the peculiar arrangement of the cervical fasciæ. On either side of these mesian projections a vertical sulcus is distinguishable: it runs along the inner edge of the sterno-cleido-mastoidei muscles, and marks the situation of the carotid arteries, which in these persons may be seen pulsating beneath the skin.

The whole of this region of the neck is placed anteriorly to the cervical vertebræ, and as it contains the various organs I have already described as so essential to life, it offers many points of the highest interest to the surgeon; perhaps one of the most important of these is in relation to the manner in which the cervical fascia unites all the parts, and at the same time sub-divides them, and isolates each structure by forming a distinct sheath around it.

The growth of tumors, and the progress of the formation of abscess, as well as the effects produced upon the neighbouring organs, are modified by the attachments of the fasciæ: these processes should, therefore, be most scrutinously studied by the anatomical pupil, in order that he may become fully acquainted with the topography of the region.

The supra-hyoidial region.—It is in this region that attempts at self-destruction are most frequently made by what is termed "cutting the throat": if such an attempt be determinedly made, the mouth is laid open: this is attended by a discharge of mucus, mixed with more or less blood, and saliva; if the sublingual or submaxillary gland be wounded, a flow of saliva also occurs; the power of articulation is greatly interrupted, although the voice itself is unimpaired.

In these cases the extent of the hæmorrhage is the most alarming feature; it depends upon the division of the submental or lingual artery, which, if divided, requires a ligature to stop the bleeding: the former may usually be at once secured; but with respect to the lingual artery, it is more difficult, from its being so deeply seated, and if it cannot be secured at the wound the trunk itself must be tied, which is effected as follows:—A piece of sponge or lint is pressed into the wound to check the bleeding during the operation, and an incision is made through the skin and fascia superficialis, commencing a quarter of an inch anterior to and above the cornu of the os hyoides, and extending upwards and backwards towards the anterior edge of the mastoid muscle. The edges of this wound being separated, the tendon or posterior belly of the digastric muscle is exposed, and immediately below it lie the lingual nerve and artery, the nerve being above, and somewhat superficial to the artery, I have once tied this artery myself in a case of attempted suicide by a person in St. Martin's Lane, and I found the operation extremely difficult, although on the dead subject you will find it comparatively easy; which depends upon the action of the muscles during life increasing the depth at which the artery is situated. If a wound in the side of the throat extend very deeply in this region, the instrument may penetrate into the inferior part of the parotid region to a sufficient depth to injure the gland, the external carotid artery, or perhaps its facial branch. If the latter only be wounded, it may be tied; but if the carotid itself be divided, it would generally happen that the patient would die before the necessary assistance could be afforded. I remember, however, an instance, in which an old pupil of Guy's Hospital, a Mr. Tierman, who had the care of a lunatic, succeeded in putting a ligature around the common carotid, and, by his skill and promptitude, saved the life of the patient.

Tumors sometimes occur in the supra-hyoideal region: the degree to which these project externally depends upon whether they are between the skin and the muscles, or the muscles and the mucous membrane of the mouth; in the last case they would project more into the mouth, and, if requiring an operation, must be removed through that cavity.

I lately removed a tumor from this region: it was placed between the superficial fascia and the genio-hyoglossal muscle; and although from its projection and mobility it appeared very superficial, it penetrated so deeply between the muscles as to require careful dissection for its perfect removal; the tumor was composed of enlarged and indurated lymphatic glands.

The glands of the supra-hyoidial region are often secondarily affected in malignant disease of the lower jaw and tongue; when this is the case, it forcibly indicates the impropriety of resorting to operation for the removal of the original affection.

The central region of the neck comprehends the space between the under surface of the os hyoides and the inferior edge of the cricoid cartilage; I shall term it the

Laryngo-pharyngeal region.—Wounds in this part are also not infrequent from the hand of the suicide, and the cutting instrument may divide the space between the os hyoides and the thyroid cartilage, between the thyroid and cricoid cartilages, or between the cricoid cartilage and the trachea, or it may, indeed, divide the cartilages themselves; in either case, however, the resulting phenomena would indicate at once the nature and situation of the inflicted injury. If, for instance, the wound penetrates between the os hyoides and thyroid cartilage, the thyro-hyoideal ligament will be cut through, the phalanx laid open, and its contents probably protruded. Air also passes from the wound, producing often more or less emphysema, and speech is also impaired, if not destroyed. The bleeding is here usually comparatively slight, as the superior thyroideal artery alone is liable to be wounded, unless the incision extends laterally to a sufficient degree to reach the carotid artery and jugular vein; but the superior laryngeal nerve is very likely to be divided; and, if that were to happen on both sides, the loss of sensation in the larynx would probably lead to suffocation, owing to the blood passing down the glottis; for, as the presence of the intruding matter would not be indicated in consequence of the loss of sensation, there would be no effort to expel it by coughing. Should there be bleeding from the superior thyroideal artery, and an attempt to secure its truncated extremity not succeed, the trunk of the artery must be tied; and, with this object, an incision must be made through the skin and fascia of the neck, commencing immediately below the cornu of the os hyoides, and extending outwards and downwards for an inch and a half towards the mastoid muscle: the artery is thus exposed, several small veins lying across it, and the superior laryngeal nerve behind it. I have seen Sir Astley Cooper put a ligature around this artery for the disease of the thyroid gland termed bronchocele: it proved, however, ineffectual. If the carotid artery itself be divided in the laryngo-pharyngeal region, there is but little chance of the patient surviving until surgical assistance could be obtained. If the cutting instrument be directed deeply backwards, and, at the same time, takes a downward direction, the apex of the epiglottis may be wounded. In such a case, a complicated train of symptoms would be presented by the interruption to the functions of respiration and deglutition. If the wound be inflicted between the thyroid and cricoid cartilage, the vocal cords and epiglottis are almost certain to be injured, and the voice greatly impeded or totally lost; blood and air rush out of the wound at each expiration, while every time the air is drawn into the lungs, cough is produced by the blood passing into the glottis.

Should the incision in "cut throat" be through the thyroid or cricoid cartilage, the danger of suffocation is increased, as, owing to the elasticity of the tissue, the wound is immediately closed, and the blood cannot be expelled through it. The object in these cases is to secure the bleeding vessels as quickly as possible.

SALUBRITY OF PHILADELPHIA.

The editors of the Western Journal of Medicine and Surgery infer, from the fact that but two medical students, in a class of 406, have died there during the last session, that Louisville is signally healthy. What then must be the healthfulness of Philadelphia, when only two had died up to the 1st of March last, in about 1200. The Catalogues of the University of Pennsylvania and the Jefferson Medical College have alone been published. In these two schools, of the *five*, there were nearly one thousand students.—*Philadelphia Medical Examiner, and Record of Medical Science*, April 1848.

CLINICAL OBSERVATIONS ON

HIP DISEASE.

By B. Phillips, F.R.S.
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Too many cases of hip disease occur in practice to make it a matter of indifference that the affection should be rightly understood; and I therefore shall beg your attention while I make some observations on it today: the more so, as we have at present in the hospital several cases which illustrate different stages in the existence of the disease.

In Henry Hoare ward there is a boy, who, I believe, has hip disease, but there is no other sign of the disease than a slight limp in walking: there is no pain upon suddenly pressing the head of the femur into the acetabulum, nor upon rotation. He can stamp upon the ground vigorously without flinching, but there is the occasional limp. In Queen Ann ward is a little girl who limps, but who can bear a hard blow upon the heel of the extended leg without shrinking; she has, however, tenderness in the groin. In Sanctuary ward there is a child in whom the disease has been more acute, and a collection of fluid exists, I believe, external to the joint; but the symptoms have now become very chronic. The fluid was a kind of sero-pus, as shewn by the introduction of a grooved needle. It certainly has greatly lessened in bulk under the influence of repeated blistering, but has not quite disappeared. In Mark ward is a boy who presented the disease in a very acute form: he screamed out on the slightest motion of the limb. Leeches, blisters, and calomel and opium, have brought it into comparative quiet. Before you at present are two cases: one of dislocation upon the dorsum of the ilium, the parts being in a quiet state; the other, of more or less complete anchylosis. Bear in mind, with respect to anchylosis at the hip-joint, that errors in diagnosis are not unfrequent. The muscles about the joint sometimes assume a tetanic rigidity, which prevents for a time the slightest movement.

Although this disease is so common, and although it often terminates by wearing out the patient, yet the opportunities of observing the parts in the early stage of its existence are by no means common. This is unfortunate, because it leaves room for difference of opinion at a time when curative agents should be employed with most benefit.

Some persons entertain the opinion that in this early stage the disease is external to the joint; others maintain that the disease, which may be observed external to the joint, is always secondary—that the primary disease is usually within the capsule. Some think the disease begins in one tissue of the joint; some another. It would surely be well that we were all agreed on this point. If, in the early stage, the joint were comparatively free from disease, it might explain the alleged success of those who allow their patients to use the joints, the evils of confinement and failing health being averted. It is clear that, if there were any stage where motion could be permitted with impunity, the patient's health would probably suffer less than from the close confinement to which the motionless limb subjects him.

De Haen, and especially Dzondi, maintained that the external or extra-capsular form was the only one they had met with; others deny its separate existence altogether. As far as the demonstration on the living can avail, we have had many instances in this hospital in proof of its occasional existence. Still, the preponderance of evidence favours the belief that the intra-capsular form of the disease is of most frequent occurrence; and until comparatively recent times,—even from that of the Greeks, the belief was universal, that the soft parts within the capsule were the seat of the disease.

There was a boy in the hospital not long ago who was the subject of fever and of acute disease affecting several joints, particularly the hips. There was also a tumor, which appeared to be abscess, in the left iliac fossa. He died; and, upon examination after death, the results of most acute inflammation were found in both hip-joints. A large quantity of sanguineous fluid was found there; the appendages had been in the highest state of inflammation; the cartilaginous surfaces were partially destroyed, and the fundus of one acetabulum had given way, so as to allow of the passage of a portion of fluid into the iliac fossa, and of the formation of the tumor which was felt. But such acute forms of the disease are by no means common: a more chronic form is the more usual. In the lattter stages of the disease, accurate post-mortem inspections have very often been made, and the appearances are similar to those which are often observed in other joints. In some cases the synovial tissues alone have suffered; in others, the femur alone; but in most cases the acetabulum and its appendages have undergone great change.

Inflammation within this joint and elsewhere may be presented under different forms—may determine the formation of different products. Those products may be a sero-mucous fluid, which, when the accumulation is considerable, constitutes what is known as dropsy of the joint. The inflammation may not proceed beyond this point to the formation of any other product. I take it, the cases described by Mr. Stanley in the Medico-Chirurgical Transactions are of this nature. I do not, however, admit the correctness of Petit's opinion, that it is the ordinary first stage in the development of the disease. The inflammation may for a time be confined to the soft parts, which become tumid and painful on motion; but this condition, in the absence of any morbid product, is rare. The ligamentary and cartilaginous structures are soon involved in the mischief which is developed. The more common state is that in which the inflammation of the soft parts has determined the formation of pus within the capsule, and where the cartilages have undergone ulceration. All intra-capsular disease of the hip-joint does not, however, begin in the soft parts, though many, or, according to Brodie, most of them, begin in the cartilaginous structure. But certainly the osseous structures of the head of the femur, or of the acetabulum, are often the first to suffer. Of this we have ample proof in different collections. It is only at this early period that we can obtain proof of the correctness of the positions I have laid down; at a later time the hard and the soft parts alike are confounded in the disorganisation which is determined. The cartilaginous surfaces may be unchanged, or they may be detached at points, ulcerated, or eburnated; but they do not always suffer altogether: the acetabulum may be destroyed even to making an opening into the pelvis, while the surface of the head of the femur may be almost unchanged, and *vice versâ*. The fibrous capsule of the joint may be entire amongst the most remarkable disorganisation: it may be more or less completely destroyed, and give way. Such great changes, however, do not go on long within the capsule without exciting disturbance beyond it. Œdematous or purulent infiltrations may occur, and may make a way for themselves in various directions.

What is singular in hip disease is the uncertainty of what may happen as to the relation of the articular surfaces. Great destruction of the soft and even the hard parts will happen, while the head of the femur will remain firm or even anchylosed in the acetabulum; in others, the disorganisation may be even less, while the head of the femur is quickly pushed from the cavity. That this displacement may happen when the disorganisation within the joint is inconsiderable, is proved by Mr. Stanley's cases, and also that this displacement may occur without rupture of the capsular ligament; but usually before this happens there is great disorganisation within the joint, and the capsule is ruptured. When displacement occurs, it may be in any direction which the bone takes in accidental traumatic displacement. In any case it may make for itself a resting place, and a kind of capsule at the point where it is fixed.

There is no single joint oftener the seat of disease in childhood than the hip; and considering how much it is protected, this fact is not easily explained. There are, surgeons — Petit was one of them — who maintain that this disease is always set up by contusions—by falls, and that, as they are frequent in childhood, a ready explanation of their frequency is thus furnished. Still, however carefully you interrogate patients, you are often unable to connect the disease with a contusion; but this by no means proves that such contusions have not happened. Considering, too, how much children fall about, it is reasonable to admit that such injuries may often stand in the relation of an exciting cause to this disease, although we may be unable to distinguish the circumstances of the connection. At all events, it seems to me more reasonable to subscribe to this opinion than to that of Dzondi, who asserts that there is only one cause capable of determining coxalgia, and that he calls rheumatic irritation. He says, "Of the numerous cases I have seen in thirty years, not one could be fairly referred to contusions or strains, scrofula or syphilis." He does not deny that inflammation may be set up in the hip-joint by these means, but he says those cases do not end in spontaneous dislocation. This rheumatic irritation, which in his opinion is the cause of so much mischief, he describes as resulting from a suppression of the cutaneous transpiration at a time when that function is energetically performed; and he states that it usually results from the exposure of that region of the body to cold when in full perspiration. He attributes it mainly to the habit which nurses have, when a child is tired, of causing him to sit down anywhere on a cold stone or cold grass, often after the part has been supported long enough on the nurse's arm to become quite warm. In the poor man's house, the common place for a child to sit is the cold stone floor.

Many persons regard a scrofulous constitution as the common cause of the disease; but then there must usually be something to determine the mischief on the hip-joint: it may be a contusion. Larrey thought scrofula the cause in childhood; rheumatism in adult life; but in adult life the disease is by no means common; and in any case, if scrofula be a cause, it is a remote one. No doubt the contusion, which might prove harmless in a vigorous child, might set up hip disease in a scrofulous one.

However obscure may be certain points connected with the pathology and with the causes of hip disease, they sink into insignificance compared with the difficulty of diagnosis in the early, and therefore most important, period of the disease. Upon what can we rely for proof that the disease exists?— upon pain?— upon any interference with the power of motion?—upon any deformity in the limb? If we admit the value of pain as a symptom, where is the point at which it is most characteric?—at the hip?—in the groin?—along the thigh?—at the knee?—down to the foot? The pain at the knee, as a characteristic of hip disease, has always been relied on: it may be so severe as to mask any discomfort which may exist at the hip: it may not be present; and, if it be, it may be a sign of some other affection than hip disease. When it is a symptom of hip disease, it has been so intense as to be treated for white swelling. In most cases the pain at the knee is not increased by pressure, but in some cases the slightest pressure upon it cannot be borne without suffering; however, this is more particularly the case in hysterical patients. With respect to the point of the knee which is affected in these cases, some persons have sought to lay down rules by means of which the nature of the hip disease can be ascertained. It has been said, that, where the hip disease is of rheumatic origin, the pain will take the course of those tendons which are inserted at the inner side of the head of the tibia; that where it is scrofulous, the pain is referred to the condyles of the femur. There is no doubt that, where one extremity of a bone is thus affected, the pain will often extend to the other; but, in my opinion, this will happen whether the disease in the hip be set up by rheumatism or by any other cause, whether it be confined to the acetabulum or extended to the femur itself. It is possible that in some cases the pain at the inside of the knee is owing, as has been suggested, to a propagation along the obturator nerve. In some cases the pain at the hip or the knee may be very severe; in others, and of this we have had many examples, it is so slight that there is little interference with motion; occasionally there is scarcely any limping, and the disease often continues its course comparatively unobserved.

It will frequently happen that shocks applied upon the trochanter, or knee, or heel, will not cause any pain at the hip; but there is a manœuvre which will rarely fail to excite it—that is, a sudden rotation of the limb inwards. Still, you have seen here cases where the pain has been so severe as to oblige us to take blood, to blister, to give mercury, and the slightest motion has caused screams, but this rarely occurs in an early period of the disease. A watchful mother, however, has her attention most commonly roused at an early period by observing a limp, and soon she ascertains that there is fixed uneasiness, which too commonly goes on increasing. The pain does not always seem to bear any very exact relation to the amount of disease set up in the head of the femur or in the acetabulum: there may be much disease there, and comparatively little pain, and *vice versâ*; but generally there is a certain relation between the two. Where the disease is slow and chronic, there is usually not severe pain; where the disease is acute, and its progress rapid, the pain is often excruciating. In bad cases it often happens that the pain is not continuous—it comes on in paroxysms. In milder cases it is usually so; but in either case it can usually be determined by sudden shocks, and by particular positions.

The interference with motion may be regarded, then, as an important sign in this affection; and may be observed even before attention has been roused by the existence of pain. A child may continue to run about, apparently without hesitation — without complaint, but the eye of a mother may even then detect the limp; although, after a careful examination by a surgeon, no other sign of hip disease can be detected. Before a child begins to run about, this sign was of course of no value; but even then, if doubts are entertained, they will be strengthened if there be any rigidity in the motions of the thigh. The disease does not usually continue long before the power of extending the limb, as well as the lateral motion, is interfered with, and then the gait becomes altered; what is wanting in motion on one side is borrowed from the other, or from the pelvis. The failure of motion in the part is owing partly to the pain it excites, partly to rigidity; the muscles will not voluntarily cause a movement which will inflict pain. Effusion into the tissues around the joint also concurs to limit motion still more; and some people think that the distension of the capsule tends to the same end. At a later period all these causes act with more intensity, and the limb may become almost fixed, even before the articular surfaces are destroyed; when that has occurred, of course complete anchylosis may be the result. But persons are often deceived as to the actual extent of motion at the part, by neglecting to fix the pelvis.

A period comes, however, when the form of the limb is a most important point in diagnosis. At an early period, as soon as eructation has excited decoction, so as to distend the joint, there may be increased fulness at the groin or upper part of the thigh; the character of the buttock is changed: it is flattened and flabby, and looks broader than its fellows. To some extent, as is observed by Sir B. Brodie, this is owing to the constant position of the limb

—to a greater extent to the falling away of the muscles. This falling away is a sign to be borne in mind, but not a certain sign of hip disease. It may happen in children who have the limb paralysed, and in cases of disease of the femur. When the disease has proceeded to the extent of purulent infiltration, the swelling may increase; it may be confined or diffused, and the cellular tissue over it becomes œdematous; but this œdema is usually confined to the upper part of the thigh. At a later period, if to the previous mischief be added displacement of the head of the femur, a projection will be presented at the point corresponding to that where the head of the bone is then situated; but, in the lower part of the thigh, there is observable a wasting, dependent on muscular inaction.

The direction of the limb in hip disease undergoes considerable change: it may be flexed, abducted, or rotated outwards or inwards. When, during the erect position, the limbs are vertical but the thigh is fixed, it is rather the pelvis which is inclined upon the thigh, than the thigh upon the pelvis—the trunk being inclined forwards.

Much discussion has been lavished upon the question of the change which is apparent in the length of the limb: it may be lengthened—it may be shortened; and the question has only been well understood in our own times. The shortening has been alluded to from the time of Hippocrates, but the lengthening seems to have been first clearly noticed by the Arab physicians. It was, however, lost sight of, until again alluded to, but not satisfactorily explained, by Petit and by Morgagni. Paletta conceived that the lengthening was owing to the tumefaction of the soft parts within the joint. Larrey urged, that neither was lengthening nor shortening a certain sign of luxation, for that both may be observed without dislocation; the lengthening he conceived to be owing to a swelling of the ligamentum teres, causing a certain projection of the bone; the shortening to destruction of the articular surface. In either case it would be hardly appreciable. Hunter was accustomed to explain the lengthening by means of the depression of the pelvis, as did Morgagni; but no one has so forcibly insisted on this as an explanation of the lengthening or shortening as Brodie; and careful admeasurement will usually shew the correctness of his views. The views of Fricke on this subject, although they have attracted much attention, are manifestly unsound: he referred the elongation to paralysis of muscles; shortening to contraction of muscles.

There is, however, no doubt that, to the eye, apparent elongation or shortening of the limb is a common symptom of hip disease; when no dislocation has taken place, it is equally true that careful admeasurement between two fixed points—the anterior-superior spinous process of the ilium, and the superior border of the patella—will shew that in most cases it is only apparent. There is, therefore, no doubt that the apparent elongation is, in most cases, dependent on a lateral depression of the corresponding side of the pelvis; and that the apparent shortening is due to a similar elevation, which is, however, less common; and the abduction or adduction of the limb must depend upon the same fact. But, in making the necessary admeasurement, one thing must not be lost sight of: the position which is given to the limb at the moment; for the difference between the two points may be influenced by it. If we measure, between the anterior and superior iliac spine and the condyles of the femur, the superior border of the patella, or the ankles, the line will be increased in length by adduction; it will be decreased by abduction; and the greatest elongation will be given by a position of combined adduction and extension; the greatest shortening when abduction and flexion are combined. It is clear, therefore, that the apparent lengthening mainly depends upon lateral depression of the pelvis; that apparent shortening mainly depends on lateral elevation of the pelvis. As these apparent modifications in length depend so much on position, it is important to be able to dissipate them. If by dragging upon the limb we could bring it into its proper length, there might be less difficulty in diagnosis; but frequently this cannot be done; the affected limb is frequently fixed, either by pain or by some change in the joint, and the necessary force cannot be prudently applied; but useful information may be obtained by bringing the sound limb into the same position.

Let us now see what it is that determines these apparent modifications. Brodie conceives they are owing to the predominant action of certain muscles, and the vicious habit into which the patient is so apt to get for the purpose of saving the unsound side: he rests entirely on the sound limb; hence the tilting of the pelvis,—the forward position of the limb of the other side, and the toe advanced; the spine and the shoulder, also, are equally affected by this position. Some surgeons object to this explanation. It is said, for instance, that the position is owing to an instinctive want in the patient; it is also said that the symptoms have equally place in those who have been kept in the horizontal position from the first dawn of the disease; but this is not correct. It has been further observed, that whenever we find a patient with elongation of the limb, in hip disease, there is also flexion and abduction; and that this position coincides with the habit which the patient has contracted of lying on the suffering side; and a similar explanation has been given as to the apparent shortening. It is said that the patients who are thus affected all lie on the sound side; the diseased limb being flexed upon the pelvis, adducted and rotated inwards. Bonnett maintains that in those cases where there is flexion and rotation outwards in an early period of the disease, it is owing to a distension of the articular cavity by some fluid. That, as to the rotation inwards and flexion which are observed at a later period, he attributes it to the following circumstance,—that the articular capsule, softened or destroyed, no longer opposes any mechanical obstacle to muscular action; adduction and flexion are therefore the necessary results.

There is, however, a state of elongation and of shortening which is real; but unless the head of the femur has left the articular cavity, it is inconsiderable. Whenever a displacement happens—the head of the femur leaving the cotyloid cavity—the marked change in the length of the limb is produced. There are authors who say they observed a real lengthening of the limb at an early period of disease, though many persons regard it as only apparent.

Whatever doubts may exist on this subject, one thing is certain—that if you fix the pelvis of a dead body firmly on a table, the limbs straight, the ankles brought together, and incise the capsule at its upper part, the head of the femur will be found directed outwards, so as to be firmly pressed against the upper wall of the cotyloid cavity, and no longer resting against the floor of the cavity; in these circumstances there will be lengthening, but to only a trifling extent. If a complete section of the capsule be made, the ligamentum teres being intact, and the head of the bone still further removed from the floor of the cavity, there will be still more lengthening; but even now it will be inconsiderable. If the cartilaginous coverings of the bones be removed, and the same experiment be made, there will still be lengthening, though not to the same extent. If those facts are good, they may help to explain what would otherwise be difficult—they would tend to shew that any cause capable of projecting the head of the femur from the floor of the articular cavity would certainly produce a real lengthening.

Lengthening, trifling though it be, might also result from the tumefaction of the soft parts within the acetabulum, or from bony or other deposits, or from synovial or other fluid accumulations. This elongation in the dead subject, while the head of the bone is in the acetabulum, is then susceptible of demonstration; but we are quite justified in assuming that the same effects may occur from the same causes in the living? I think so. Whether, as some have supposed, the occasionally increased bulk of the head of the femur, under disease, may induce an elongation of the limb, is doubtful. Rust strongly insisted that it does:—he says, one of two things indeed happen where the head of the femur enlarges, either the cavity of the acetabulum must enlarge too, or the head of the femur must be displaced. And provided complete extrusion not to take place, a certain amount of lengthening must be produced. With respect to shortening, there is no doubt it may be brought about by change in the volume of the head of the bone, or of the acetabulum, or by destruction of the cartilaginous coverings; still this must be trifling; but for the most part real shortening is the result of displacement. I am not of the number of those who believe that muscular contraction can produce any considerable shortening; for I am satisfied that any amount of pressure of the head of the bone against the superior wall of the acetabulum will not produce any sensible shortening, unless there be some change in the head, or other parts of the bone, or in the acetabulum. Where the head of the bone is pushed out upon the dorsum of the ilium, the extent of shortening will, of course, depend upon the point where the head of the bone rests.

Hip disease may commence acutely, or it may be for a time very insidious, and the general symptoms will vary accordingly. If it be acute, the general excitement may be considerable, but commonly it is not so, and no great constitutional irritation is set up until suppuration is developed. Then the usual signs of suppurative action are manifested. The patient has fever, he loses flesh and strength, and the face is pinched; and when large collections take place around the joint, hectic too frequently sets in.

Different surgeons have admitted different stages in the progress of the disease; one describes a period of inflammation, and one of suppuration. Another distinguishes a period during which the head of the bone remains within the acetabulum; another, when it has left it; but as displacement is not a necessary stage in the development of hip disease,—that distinction cannot be regarded as good. Though it may be apparently less precise, it seems to be more natural to include, within the first period, the mischief which happens up to the destruction of the apparatus of the cavity. The second, what occurs from that period to the termination of the disease, it may be in displacement, it may be in ankylosis, it may be in death.

In most cases hip disease supervenes spontaneously, and the symptoms are obscure, and not well marked, but much depends on the state of health of the patient. If it be spontaneously developed in a person in vigorous health, the symptoms may be severe and unmistakeable, but usually it is in feeble persons that this disease is observed, and in them the obscurity of the symptoms is sometimes very remarkable.

In some cases disease seems to be induced by injury, and then the symptoms are often acute and evident. For a time the pain is rather wandering than fixed, but before long it begins to attract attention to the joint or the groin. The patient can often bear pressure at this time without wincing, and sometimes even jolting motion; but, although he is not inconvenienced at the hip, he will sometimes complain of the knee, or the ankles, or the heel. If at this period there be any change apparent in the limb, it will be probably only a certain rigidity;—there may be limping;—there may be a change in form or direction. There is usually some amount of flexion, with abduction or rotation outwards, and apparent lengthening. These early symptoms are rarely accompanied by any trouble, unless indeed there be feeble general health independently of the local disease; but it now and then happens that febrile action is set up early. Brodie thinks that the occurrence of febrile symptoms depends entirely upon the part first affected. That when the synovial membrane is affected, the pain is less intense at first than subsequently;—that it never acquires that intensity which it acquires in the case where the bone bcomes affected;—that the pain is increased by motion, but not by pressure of the surfaces against each other; and that the weight of the body can be often supported without inconvenience, on the diseased limb.

When the bone is first affected, the pain is usually slight and passing: later it becomes fixed and constant. It may be seated at a particular point, or extended to different points of the limb; further on it becomes intense, especially at night; and the patient can only get relief in some particular position, and screams when he is removed from it. In many cases the pain is more intense at the knee than the hip. It is usually most aggravated when the diseased surfaces are pressed against each other. The disease does not last long before the form of the buttock changes; it loses its convexity, it becomes flattened and flabby. When the synovial apparatus is first implicated, there is often swelling in the groin, as well as the nates, but both points become flattened after a time.

You have seen how very variable is the progress of this disease; it may end in death in a few months; it may continue for years; or all trouble may abate, almost disappear, and be again suddenly aggravated without apparent cause. It may terminate in cure, though we often look for this in vain; it may, as in two cases now in this hospital, end in luxation; it may, as in the specimen before you, end in anchylosis, or it may proceed further.

It is laid down in books that during the first period of the disease the termination in resolution is the most frequent;—that gradually the lengthening and the pain disappear; the pelvis resuming its proper position, and motion becoming unembarrassed. My own experience is in melancholy opposition to that conclusion. Of course during that period any displacement of the head of the bone is very uncommon, though not without example. In most cases, however, probably from want of proper care, the disease passes on to the next period. Then the form of the limb becomes changed—during the first period it was flexed, abducted, rotated outwards; the iliac spine of the diseased side somewhat in advance of the healthy one; the limb is apparently lengthened, and the patient for the most part content to lie on the unsound side. In the next period these features are changed; the thigh is more flexed, abducted, rotated inwards; the iliac spine is less advanced than that of the healthy side, and the patient lies on the sound side. There may during these two periods be a real change of length, brought about by an accumulation or escape of fluid from the cavity. There may come abscesses around the joint, varying in form, in volume, and in direction, sometimes passing through pelvic openings, occasionally penetrating into hollow organs, more commonly, however, pointing in the thigh. In some cases their progress being very slow, the constitution gradually breaking down; in others most rapid.

Death is a very common termination of hip disease; it is commonly brought about through the agency of extensive abscesses and profuse and continued discharges, which end in hectic fever, and its consequences.

After the early stages, complete cure, though possible, is an unfrequent termination of the disease, but it may occur even when the disease has arrived at an advanced stage. The preservation of life at the expense of anchylosis or dislocation, is by no means uncommon. When it occurs, however, the process is a very tedious one.

Where there is dislocation it may present every variety;—the head of the bone may be within the pelvis, having passed through the acetabulum; it may be on the dorsum of the ilium; the thyroid foramen; upon the pubis, in the sciatic notch: most frequently, however, it is found in the dorsum of the ilium, covered by the glutæus medius, and minimus muscle. In some cases it hollows out for itself a cavity upon the part where it rests, and the acetabulum may become more or less completely filled up.

As we have already seen, there is no uniformity in the method by which the head of the bone is displaced: in some cases it is owing to an accumulation of fluid within the acetabulum, as was laid down as a general rule by Petit; in some instances to the tumefaction of the soft parts within the joint, as was laid down by Boyer; in others, it is owing to bony or other products developed there; in others, as maintained by Rust, it is owing to disease set up in the head of the femur. In either case, certain circumstances are necessary; the collection, whether fluid or solid, must be enough to push the head of the bone out, and the cotyloid cavity must be entire; and if carious action has broken down the edges, the displacement is further facilitated. It is, however, rarely accomplished until that period when the limb is flexed, adducted, and rotated inwards, by which means the head of the bone is removed from the fundus of the cavity; if the posterior border be at that time destroyed, the displacement is of course facilitated. When these luxations happen, they are commonly well marked; but the signs are not always like the appearances presented in ordinary luxations. For instance, in luxation upon the dorsum of the ilium, it does not always happen that the foot is inverted; but it may be everted, as in fracture of the neck of the femur.

You have often witnessed the difficulty of diagnosis at an early period of hip disease. Only a few days ago, you saw how obscure were the symptoms in a case in Sanctuary ward; but that is a circumstance which attaches to an early period of many diseases. You have seen that, among the early symptoms, the most constant are pains of uncertain seat, and often wandering, appearing one day at the hip, another at the groin, another at the knee, another at the ankle. How difficult is it, in many of these cases, to distinguish them from rheumatism! At last you remain in doubt; but if your suspicions are excited, you direct your means to the hip. Again, the knee pain, though characteristic, is by no means to be relied on; it may be developed, as a sympathetic pain, in other cases than hip disease; we had lately a case where it was a marked symptom, although the disease under which the patient laboured was psoas abscess; there was no hip trouble. Again, pain along the course of the sciatic nerve is by no means an uncommon cause of error, producing, as it does, often lameness and depression of the pelvis.

But perhaps there is nothing more difficult in young women, in cases of obscure hip disease, than to say whether the pain be hysterical, or owing to structural disease; and it is only by a careful consideration of the history of the case, and the general condition of the patient, that we can hope to come to a satisfactory conclusion. There may be pain in the hip and the knee,—it may be increased by motion or pressure; but in most cases the pain has no fixed seat or character; and in many instances, on pressure or motion, the pain complained of is much more severe than the other symptoms would lead one to expect; and the expression of pain can frequently be elicited, by pressure made at a point where no influence could be exercised on the hip-joint. In these cases there is usually no emaciation,—no sign in the face of articular disease,—no starting, or pain at night,—no sudden waking when once asleep, as is so frequent in advanced disease of the hip. And this state may go on for months or years, without any more decided evidence of mischief at the joint itself. Sometimes there is puffiness, which may cause a suspicion of abscess; there may even be a notion of fluctuation; a trocar may even be passed, but no fluid follows. There may be deformity of the spine and tilting of the pelvis, which may give an appearance of shortening, so as to induce a suspicion of dislocation; for the heel may be raised from the ground, but still the symptoms are illusory. When the knee is complained of, the same observations will apply; there are the same pain, the same excessive sensibility upon pressure; while it may be that the patient can support herself on that limb without suffering. Besides this, it will happen that the habitual position of the limb is one of extension, while the ordinary position in organic disease is that of flexion; but, again I repeat, after months of suffering in the hysterical form of the disease, there will be a total absence of the ordinary signs of organic disease at the part; but still it is by no means uncommon for such cases to be locally treated by blisters, issues, cupping, &c.; and sometimes with benefit. In most of these cases the age of the patient does not much exceed twenty; the general appearance is fresh coloured, and the circulation languid; but in many of these cases the general features of hysteria are sufficiently marked. The local symptoms often follow closely upon some other disease by which debility has been induced; or they may succeed to some moral shock given to the system. The trembling spasmodic action so commonly observed when caries exists in the articular surfaces, is rarely present in the condition we are considering.

When all pain has left the joint, a state of feebleness remains, which is entirely opposed to the use of such exercise as then becomes essential for the cure.

Affections of the lower part of the spine, more particularly caries, may, as you see in the case of Maria Bailey, give rise to many of the signs of hip disease.

I doubt whether the symptoms by which Sir B. Brodie has sought to distinguish between disease affecting the several structures entering into the composition of the joint, are always to be relied on. I have known the uniform swelling of the hip, and the moderate pain, absent in synovial inflammation; . I have known the agonizing pain during motion wanting where there was great alteration in the articular surfaces. I have known the flattened buttock to be absent where the cartilages were ulcerated.

Anchylosis is a termination of hip disease, which we occasionally see, though not frequently; the disease, when it arrives at the period when anchylosis may occur, often terminates in death. You must take care to avoid mistake when examining a stiffened limb, for a kind of tetanic spasm sometimes occurs, which leads to an impression that anchylosis exists. The case of a young man in Mark ward was a good example of that state. A patient at present under Dr. Roe's treatment is a good example of false anchylosis. The specimens on the table are examples of the complete development of that state.

LECTURES
ON THE
DISEASES OF INFANCY AND CHILDHOOD,

Delivered at the Middlesex Hospital.

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Lecture XXXIII.

Diarrhœa—its two forms, the simple and inflammatory—causes of the affection—influence of age—of process of dentition—of temperature, and season of the year.

Symptoms of simple diarrhœa—not usually a dangerous affection—occasional hazard from great exhaustion that it produces—occasional cessation of purging independent of real amendment — danger of secondary diarrhœa.

Inflammatory diarrhœa—occasional want of correspondence between the symptoms and morbid appearances—chief morbid appearances in large intestine. Close similarity between these and changes in other parts to those in dysentery of the adult.

Symptoms—occasional disturbance of nervous system at the outset—progress of the disease—its tendency to a chronic course. Life sometimes cut short by intercurrent bronchitis—by head symptoms—by relapse after temporary amendment.

In a systematic course of lectures like the present, subjects of very various interest and importance come successively before us. We were engaged yesterday in the study of some affections which fortunately are of very rare occurrence; but to-day we pass to the examination of one of the most common, and at the same time one of the most serious, disorders of infancy and childhood. The importance of *diarrhœa* in early life, indeed, is not to be estimated merely by the number of deaths which our tables of mortality represent it to have occasioned; for the figures that they display would warrant our dismissing it with a comparatively short notice.[*] But we shall come to a very different conclusion, if we consider the frequency of the affection, and the slight causes which often suffice to induce it; the dangers to health which result from its long continuance; and the greatly increased hazard to which its supervention in the course of some other disease exposes the patient.

Under the common name of *diarrhœa*, many of the older writers on the diseases of children have included all cases, without distinction, in which there is an unnatural increase of the alvine discharges; while some among the moderns, rejecting the word diarrhœa from their medical nomenclature, have treated only of certain inflammatory affections of the intestines of which they believe the flux to be symptomatic. Neither of these arrangements, however, is free from objection; for while the former draws no adequate distinction between cases in which the disorder of the functions of the bowels is the result of some accidental and temporary cause, and others in which it is the consequence of organic disease, the latter involves an attempt to distinguish, on purely anatomical grounds, between affections which present the same symptoms and require the same treatment.

In the present state of our knowledge it will perhaps be the safer way to attempt no further subdivision than into the two grand classes of *simple diarrhœa*, or *catarrhal diarrhœa*, as it has been termed by some writers, and *inflammatory diarrhœa* or *dysentery*. Even in this arrangement it must be confessed that there is something arbitrary, for the two affections are closely allied to each other. In the child, as in the adult, they often prevail at the same time,—they are to a considerable degree dependent on the same causes, and are in a measure amenable to the same remedies; while the milder complaint not infrequently passes into the more severe. Before we proceed, therefore, to the study of the special characters of either affection, it may be well to examine into some of those conditions which are alike favourable to the production of both.

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[*] According to the Fifth Report of the Registrar General, the deaths in London from diarrhœa, dysentery, and cholera, as compared with the total deaths from all ascertained causes, were, in children under one year old, in the proportion of 3·9 per cent.; between one and three, 2·3 per cent.; from three to five, ·6 per cent.; from five to ten, 1·1 per cent; and from ten to fifteen, 1· per cent.

The following table, deduced from 1344 cases of diarrhœa or dysentery that came under my notice at the Children's Infirmary, shows that the *age* of the child has much to do with the occurrence of the affection. :—

Cases of diarrhœa in children at the following ages :—	Were to all cases of diarrhœa in children under 15, in the proportion of	Were to all other diseases at the same age, in the proportion of
Under 6 months.	7·8 per cent.	12·6 per cent.
Between 6 and 12 ,,	16·6 ,,	17·5 ,,
,, 12 ,, 18 ,,	21·6 ,,	23·2 ,,
,, 18 ,, 2 years.	15·0 ,,	23·7 ,,
,, 2 yrs. 3 ,,	12·0 ,,	13·9 ,,
,, 3 ,, 5 ,,	11·5 ,,	8·6 ,,
,, 5 ,, 10 ,,	11·2 ,,	7·0 ,,
,, 10 ,, 15 ,,	4·8 ,,	7·6 ,,

You will observe that the period of the greatest prevalence of diarrhœa coincides exactly with that time during which the *process of dentition* is going on most actively, and that more than half of all cases of diarrhœa occurred in children between the ages of six months and two years. So close, indeed, is the connection between teething and diarrhœa, that a French physician, M. Bouchut,[*] found that only 26 out of 110 children entirely escaped its attack during the period of their first dentition, while 46 suffered from it very severely. The older writers on medicine, whose notice this fact did not escape, attributed the disturbance of the bowels to a sort of sympathy between the intestinal canal and the gums, swollen and irritated by the approach of the teeth to their surface. The frequent observation of cases in which an attack of diarrhœa attends the irruption of each fresh tooth, and ceases when it has cut through the gum, shows that such a hypothesis is not altogether without foundation. But besides the influence of nervous irritation in quickening for a time the peristaltic action of the bowels, and thus inducing diarrhœa it must be borne in mind that there exists during the period of teething a more abiding cause, which strongly predisposes to its occurrence. All parts of the digestive canal, and of its dependencies, are now undergoing an active evolution to fit them for the proper assimilation of the varied food on which the young being will soon have to subsist. Just as the salivary glands are now developed, and pour out saliva in abundance, so the whole glandular system of the intestines presents a rapidity of growth, and an activity of function, which, under the influence of comparatively slight exciting causes, may pass the just limits of health. In too many instances, causes fully adequate to excite diarrhœa are abundantly supplied in the excessive quantity, or unsuitable quality, of the food with which the infant is furnished; for it is forgotten that its condition is one of transition, in which something more than ordinary care is needed, while, in accordance with that mistaken humoral pathology, so popular among the vulgar, the profuse secretion from the irritated glands is regarded as the result of a kind of safety-valve arrangement whereby nature seeks to moderate the constitutional excitement attendant upon teething.

Besides those causes seated within the organism of the child which predispose it to diarrhœa, and those occasions furnished from without by the food with which it is supplied, *atmospheric influences* constitute a third, and a very important class of causes, which at one time render diarrhœa very frequent, and at another greatly check its prevalence.

On a comparison of the results of five years observation at the Children's Infirmary, I find that

In the three months, November, December, and January, diarrhœa formed 7·2 per cent. of all cases of disease.

In the three months, February, March, and April, 8·3 per cent.

In the three months, May, June, and July, 13·0 per cent.

In the three months, August, September, and October, 24·4 per cent.

The above mentioned causes dispose alike to diarrhœa and dysentery; but among the dwellings of the poor in the metropolis, and especially in that district of it where most of my observations have been made, conditions abound which often stamp on the disease the characters of the more serious malady. Before investigating them, however, we may first study the *symptoms* of that milder affection, which, though much the more frequent, yet, if uncomplicated, is seldom or never fatal.

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[*] Manuel Pratique des maladies des Nouveaux-Nés. 12mo, Paris, 1845, p. 196.

When the attack comes on in perfectly healthy children, it often sets in quite suddenly, with vomiting of the contents of the stomach, and afterwards of mucus, which sometimes has a yellow or greenish colour. The sickness does not in general continue, though exceptions are met with in some of the more severe cases, in which the stomach remains very irritable during the whole period that the affection lasts. In either case the vomiting is almost immediately succeeded by increased action of the bowels, the matters discharged being at first the healthy fæces; but they soon assume a bright yellow colour, like that of the yolk of egg, and are often intermixed with slime, or in other cases present a frothy appearance. The bright yellow colour of the evacuations often, though by no means always, changes to green under exposure to the air; while, if the diarrhœa should continue, the fæces when voided in many instances present a green colour, similar to that which is frequently produced by the administration of mercury. In other cases the green and yellow colours appear intermixed in the evacuations, while the presence in them of numerous white specks, the caseum of the undigested milk, shows that the function of the stomach is interfered with by the same cause as produces the over-action of the bowels. The source of the green colour of the evacuations has not yet been quite satisfactorily determined. In some cases it probably depends on the action of the acids of the alimentary canal upon the colouring matter of the bile; but Dr. Golding Bird's investigations have proved it not to be always due to this cause, and have shown that, in many instances, it results from the presence of altered blood in the evacuations. As the child returns to health the fæces become less watery; they then resume their yellow colour; or stools of a natural character alternate with others of a green colour and unhealthy aspect, or in which a very large quantity of mucus is present. The action of the bowels, too, becomes less frequent, and the child often regains its usual health in four or five days, though sometimes a disposition to diarrhœa is left behind, and the disorder is liable to be re-excited by very slight causes.

In the majority of cases this over-action of the bowels is not attended with much fever or constitutional disturbance, though, if it should come on during teething, the general feverishness of the child is often somewhat aggravated. The appetite is usually much impaired, while the thirst is often considerably increased, and the child seems very desirous of cold water. The tongue is moist, in general thinly coated with mucus, through which the papillæ appear of a brighter red than natural; but the tongue is neither very red nor much coated. The abdomen is soft, seldom either full or painful; and the pain which attends the diarrhœa is very variable,—sometimes it is completely absent, the stools being expelled without either effort or suffering; while in other cases pain comes on severely at intervals, and then ceases immediately, so soon as the bowels have acted. Although there is seldom much tenesmus, yet a slight degree of it attends upon simple diarrhœa in the child much more frequently than in the adult. There is, as might be anticipated, a loss of the natural look of health,—the face grows pale, the eyes appear sunken, and the child becomes fretful and languid,—while, if the attack set in severely, a day or two sometimes suffices to reduce the child to a state of extreme weakness and exhaustion; and in young infants I have observed all the symptoms of spurious hydrocephalus make their appearance.

The *diarrhœa* that occurs in connection with the irritation *occasioned by teething* is in general more gradual in its onset, and slower in its progress, than that which depends on some more transient source of irritation. It is likewise often associated with catarrhal symptoms; and both the catarrh and diarrhœa frequently continue until the tooth, having pierced the gum, the irritation of the mucous membranes subsides, but to be renewed when a fresh tooth approaches the surface.

Although the dangers attendant on simple diarrhœa, especially when it occurs in healthy children, are not considerable, yet the affection is one which it is never wise to make light of. On more than one occasion I have seen an infant reduced by it to a state of such *extreme exhaustion* as seriously to endanger life. Diarrhœa, indeed, is the exciting cause of the greater number of cases of that spurious hydrocephalus, described in Lecture X.,* in which cerebral disturbance from debility simulates real inflammatory disease of the brain. Under such circumstances, too, the diarrhœa has not infrequently ceased for some time before the other more alarming symptoms made their appearance. The cessation of diarrhœa may be due, not so much to the quieting of irritation, as to the exhaustion of that nervous energy which is essential to the performance of their secretory function by the glands of the intestines, or to the due maintenance of the peristaltic movements of the bowels. In infants prematurely weaned, or improperly fed after being taken from the breast, we often see this exemplified in the cessation, some twelve or twenty-four hours before death, of the diarrhœa from which they have been suffering for weeks together. Nor must we ever make too sure that, because purging has ceased, therefore danger is over; or venture to relax our watchful care until the continuance of amendment, for twenty-four hours or more, shews that there is indeed no longer anything to fear.

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* See the GAZETTE for September 10, 1848.

This, however, is not the only danger to which previously healthy children are exposed by an attack of simple diarrhœa; for if not quickly checked, it sometimes assumes the more serious characters of dysentery, and occasions severe and long-continued suffering. When diarrhœa supervenes in children who are recovering from some disease, such as measles, in which a tendency to relaxation of the bowels often marks the period of convalescence, or who have been suffering from some protracted ailment, such as hooping-cough, it sometimes occasions the patient's death, although it may leave behind in the intestinal canal no traces of serious mischief. Still more frequently is this the case with infants who have been brought up by hand, or who have thriven badly at the breast. A troublesome purging, continuing for weeks together, exhausts the strength of such infants, and at length occasions their death; but yet the intestinal canal in many instances presents no trace of more serious mischief than an unusual degree of distinctness of the follicles of the small intestines, and of the solitary glands of the colon and rectum.

In proposing, at the commencement of this lecture, to distinguish between simple and *inflammatory diarrhœa*, I yet was forced to acknowledge that the distinction was one rather of degree than of kind; or perhaps it would be more correct to say that our observation has not hitherto been minute enough to enable us to draw the line of demarcation strictly between the two affections. Even MM. Rilliet and Barthez*, whose opportunities have been so extensive, and whose industry is so untiring, confess their inability to refer the symptoms that attend upon the different varieties of diarrhœa to any distinct and invariable anatomical lesions. They remark, that not merely are exceedingly different appearances discovered after death in cases where the same symptoms have been observed during life, but that likewise there is often no proportion between the intensity of the two; and that sometimes no morbid appearances are found, even where well-marked symptoms had existed. Usually, indeed, the symptoms in such cases are but slight; but sometimes they are severe,—the diarrhœa is intense, the pain considerable, the abdomen tense and tympanitic. They state, that out of 127 children who died of different diseases, 84 had presented the symptoms of inflammatory diarrhœa, or entero-colitis, and the characteristic appearances of that affection were manifest on an examination of the intestines after death: in 24, though no symptoms had existed during life, similar changes were discovered; while in 19, the signs of disease were present during life, but its morbid appearances were absent. It is true that these observations refer to children above two years of age, and to cases in which the diarrhœa had occurred as a secondary affection; but my own observation would lead me to believe that a similar statement might be made with reference to younger children, and to cases of idiopathic diarrhœa.

These circumstances prevent our deducing from the *results of anatomical investigation* those practical conclusions which we should otherwise be inclined to draw from them; but they do not warrant us in altogether omitting to inquire what changes we shall be most likely to meet with in cases of fatal diarrhœa.

These *changes* will be found chiefly, though not exclusively, *in the large intestine;* and though usually much less serious than those which are observed in cases of fatal dysentery in the adult, they yet present very similar characters. In those cases in which the structural alterations have been least considerable, the attention is arrested less by any great increase of vascularity in the intestine, than by the remarkable distinctness of the orifices of the solitary glands, which appear like almost innumerable dark spots upon the surface of the mucous membrane. In many cases, and especially in those in which the diarrhœa was profuse at the time of the patient's death, not merely are the openings of these follicles unusually distinct, but the glands themselves are enlarged, and project like small millet seeds, or small pins'-heads, beyond the level of the surrounding tissue. This enlargement of the solitary glands is usually associated with increased vascularity of the mucous membrane, which does not, however, assume the characters of a general erythematous redness, but is confined to that part of the membrane which covers each gland, or which surrounds its base. If the disease advance further, ulceration succeeds to this inflammation of the glands. A small circular, or slightly oval spot, appears upon their summit, and increases in size and depth until it has destroyed the glandular structure and the mucous membrane, and has produced a deep cup-like depression or ulceration, the base of which is formed by the muscular coat of the intestine. On one occasion, I observed in the midst of enlarged and ulcerated glands some others equally large, but on which the excavated ulcer had not yet formed, their summit presenting a small round or oval spot, of a yellowish colour—most probably a minute slough not yet detached from the surface. Besides that loss of substance which results from the ulceration or sloughing of the glands themselves, a process of thinning and destruction likewise affects other parts of the mucous membrane, especially in those situations which correspond to the edges of the intestinal rugæ. In some parts the membrane appears to be merely attenuated, while in others it seems to have entirely disappeared, though the limits of its destruction are not marked by the same well-defined edges as circumscribe the ulcers of the glands; nor is the loss of substance so deep. On the inner surface of an intestine thus affected may be seen a number of narrow white lines, enclosing between them islets of mucous membrane, and often having such an arrangement as to give to those portions of the membrane the form of irregular parallelograms. This superficial destruction of the mucous coat of the intestine is often much more complete in the rectum, and in the sigmoid flexure of the colon, than elsewhere; and when this is the case, the surface of the bowel presents an uniformly rough appearance. It is also in the lower part of the large intestine that the ulcerative process is most frequent and most extensive; and if care be not taken to examine the last few inches of the rectum, we may come to the mistaken conclusion that ulceration was altogether absent, in cases where more careful investigation would have easily convinced us of its existence. On one occasion, I found the disease in the lower part of the large intestine to be so far advanced, that the interior of the sigmoid flexure of the colon and of the rectum presented an irregular tuberculated surface, of an ash-grey colour, which appeared eaten into holes by a number of small circular pits or ulcers, with sharply cut edges. Besides these changes in the interior of the large intestine, a thickening of its submucous coat is almost always observable whenever the diarrhœa has continued for any considerable length of time. It is in the rectum and sigmoid flexure of the colon that this thickening is most perceptible; and in this situation a gelatinous-looking matter is sometimes deposited in such abundance beneath the mucous membrane, as to prevent the intestine from becoming collapsed when it is divided.

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* Op. cit. tome i. p. 509-12.

But it is not merely in the morbid appearances presented by the large intestines, but also in the *subsidiary changes* observed *in other parts of the intestinal canal*, that the close relation between the diarrhœa of the infant, and dysentery in the adult, is manifested. The changes in the small intestine are almost always confined to the lower part of the ileum, and become more striking the nearer we approach to the ileo-cœcal valve. They consist in a more or less intense redness of the mucous membrane, which sometimes appears thickened, and presents something of a velvety appearance, studded over with numerous dark spots—the orifices of the solitary glands. In other instances, the surface of the reddened mucous membrane appears slightly roughened, as if sprinkled over with fine sand; while near to the cœcum this roughening is often greater, the membrane appearing elevated into rough, orange-coloured prominences, separated by narrow lines of a dead white colour, which mark the situations, where, by the destruction of the mucous membrane, the subjacent tissue is exposed. Both of these changes are well represented in this drawing of the intestine of an infant, six months old, who died of a relapse of diarrhœa, from which she had seemed to be in course of recovery. Besides this affection of the mucous membrane of the ileum, Peyer's glands are not infrequently very well marked in the lower part of the small intestine; and their surface presents a punctated appearance, due to the unusual distinctness of the orifices of the sacculi which compose each gland. Occasionally a few of them are congested and swollen; and once or twice I have observed one or two spots of ulceration on that cluster of Peyer's glands which is situated close to the ileo-cœcal valve; but in every instance, the affection of the small intestine has appeared to be secondary, and quite subsidiary, to the disease in the colon.* Lastly, I may observe that the mesenteric glands, even in the vicinity of the diseased large intestine, deviate but little from a state of health, being at most a little larger, and of a somewhat redder colour, than usual—a condition which contrasts remarkably with their serious affection in cases of typhoid fever in childhood, where yet the intestinal lesion is often much less considerable.

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* In vol. v. of the Zeitschrift für rationelle Medicin, Heidelberg, 1846, is a very interesting essay by MM. Friedleben and Fleisch, on some points in the pathology of the intestinal mucous membrane in infants. Their observations are founded on fifteen infants, all of whom were under one year old, who were brought up either exclusively, or in great measure, on artificial food, and who died, after long continued illness, in a state of atrophy, or else sank rapidly under profuse watery diarrhœa. In cases of the former class, a state regarded by them as the result of chronic inflammation of Peyer's glands was the chief morbid appearance; while, in those instances where death took place rapidly, a swollen and congested condition of the same bodies, betokening, as they believe, their recent inflammation, was almost always present. They found, too, that in all these cases the disease of the colon was comparatively slight, and was evidently secondary to the more serious changes in the small intestine.

I am unacquainted with any observations of more recent date on this very important subject; and, though at present engaged in its investigation, my opportunities have not yet been sufficient to enable me to arrive at any satisfactory conclusion with reference to it.

The *symptoms of inflammatory diarrhœa* sometimes become developed very gradually out of what had seemed at first to be nothing more than a simple looseness of the bowels; but, in the majority of cases, they present, almost from the outset, a graver character than those of simple diarrhœa, and are associated with more serious constitutional disturbance. When the attack comes on suddenly, it often commences with vomiting; and though in many instances the sickness does not recur frequently, yet sometimes the irritability of the stomach continues, for twenty-four or forty-eight hours, to be so extreme, that every drop of fluid taken is immediately rejected; and that frequent efforts at vomiting are made even when the stomach is empty. Violent relaxation of the bowels occurs almost simultaneously with the vomiting; and the child sometimes has as many as twenty or thirty evacuations, or even more, in the course of twenty-four hours. The motions are at first fæcal; but they soon lose their natural character, and become intermixed with slime, often streaked with blood. At first they are abundant, and are often expelled with violence; but before long they become scanty, though sometimes they still gush out without much effort on the part of the child. The character of the evacuations again changes: in the severest cases, they not only lose their fæcal appearance, but become like dirty-green water, with which neither blood nor intestinal mucus is intermingled. Usually, however, when the first violence of the purging has a little abated, although some serous stools may still be voided, yet the evacuations consist chiefly of intestinal mucus, intermixed with a little fæces, and more or less streaked with blood. These scanty mucous stools are generally expelled with much straining and difficulty; a few drops of blood sometimes follow them; and once or twice, at an early period of the attack, I have known an infant void as much as a table-spoonful of pure blood.

The constitutional symptoms which accompany an attack of this description are usually very severe: the skin becomes dry and very hot, though unequally so; the pulse is quickened, often very much so; the head is heavy; the child fretful and irritable if disturbed, though otherwise it lies drowsily in its nurse's lap, with its eyes half open, and scarcely closing the lids even when they are touched with the finger. Now and then, too, the *disturbance of the nervous system* at the commencement of one of these attacks of diarrhœa is so considerable, that a state of excitement alternates with one of stupor, that convulsions seem impending, and that there are distinct carpo-pedal contractions, or startings of the tendons of the wrist or forearm. The abdomen is usually full, and rather tympanitic, but seldom very tender, nor does the child seem to suffer much pain, though sometimes a degree of tormina appears to precede each action of the bowels. The tongue at first is moist, coated slightly with mucous fur: its papillæ are often of a bright red, as are also its tip and edges; while, if the disease continue, the redness becomes more general, and the tongue grows dry, though it is not often much coated. The thirst is generally intense, the child craving for cold water, and crying out for more the moment that the cup is taken from its lips; and the thirst is quite as urgent even in those cases where the stomach is so irritable that it immediately rejects whatever is swallowed.

There is scarcely any affection in which the loss of strength and of flesh is so rapid as in the severer forms of diarrhœa; and a period of twenty-four hours will in some cases suffice to reduce a previously healthy infant to a condition in which its eyes are sunken, its features sharp, its limbs shrunken, and its strength so impaired, that, though I have never seen an instance of it myself, I can yet well understand how death may take place in the course of a few hours from the commencement of the attack; and this rapidly fatal termination is far from unusual in some of the Southern States of America.

A rapidly fatal termination, however, is not that which is generally observed in this country; but, how urgent soever the symptoms may have been, there is in most instances a spontaneous subsidence of them in the course of forty-eight hours at furthest, or a measure of abatement of their severity follows the use of remedies. The sickness entirely ceases; the bowels act much less frequently, probably not above ten or twelve times in the twenty-four hours; but they act irregularly, five or six evacuations taking place within an hour or two, and then no action of the bowels recurring for four or five hours together. The appearance of the motions likewise varies, and apparently without cause, being mucous, green, watery, intermingled with blood, all in the course of a single day, and with no accompanying modification in the infant's symptoms. The tenesmus in general continues; and in weakly children, or in those who have previously suffered from diarrhœa, prolapsus ani not infrequently occurs; though this accident happens less commonly in infants than in children of two or three years old.

There is much uncertainty in the further course of the affection, and in the way in which it tends in one instance towards recovery, and in another to a fatal issue. Many fluctuations generally interrupt the progress of those cases which terminate favourably; while, when it eventually proves fatal, the *affection generally assumes a chronic character*, and does not end in death until after the lapse of several weeks.

In such *chronic cases*, the patient's condition, though progressively tending from bad to worse, presents but little difference from day to day. The loss of flesh goes on until the child is reduced to a degree of emaciation as great as is ever witnessed even in the most advanced stage of mesenteric disease or pulmonary consumption, though its extreme attenuation is sometimes concealed by the anasarcous swelling of its face and hands. The appetite fails completely, or becomes very capricious, and the child refuses to-day the food which yesterday it took with eagerness. In course of time, the desire for drink is lost, too; for though there may be no return of vomiting, yet nausea is excited by everything which the child takes. The tongue grows red and dry, coated with brown or yellow fur towards its root, or aphthæ appear upon its tip and edges, or the whole inside of the mouth becomes coated with muguet. The diarrhœa continues much as it was before, except that the action of the bowels is now almost immediately excited by either food or drink. The evacuations are usually of a green colour, often particoloured, and though generally watery, yet they vary both in their consistence and in their other characters, without apparent cause. Slime, blood, and pus, are sometimes present in the stools, at other times absent; and it does not often happen that purulent matter is present in large quantity in the evacuations, or for many days together, though I have observed this to be the case in cases that recovered, as well as in those which had a fatal termination. The body is no longer able to maintain its proper temperature, but the extremities are almost invariably cold; small indolent abscesses occasionally form about the buttocks; and on one occasion I saw an eruption of large vesicles, like those of pemphigus, make their appearance on the hands, arms, and neck of an infant eight months old about ten days before her death. In the condition of weakness to which the child is now reduced, a slight aggravation of the diarrhœa, or a return of vomiting, suffices to put out its feeble life; or, even should no such accident occur, death takes place from pure exhaustion.

But *various causes may abridge this protracted course* of the affection; and hence it results that death not infrequently takes place before the mischief in the intestines has become so serious as it is usually found to be in cases of fatal dysentery in the adult. *Bronchitis* is one of the most frequent of these intercurrent maladies, while the symptoms that attend it are often so slight that danger to the patient from this source is very frequently overlooked. It happens, indeed, in many cases, that almost from the outset of an attack of diarrhœa, the mucous membrane of the respiratory organs appears to sympathise with the irritation of the intestinal canal: hence the child has slight cough from the very commencement of its illness, and the continuance or even the aggravation of this cough attracts but little notice; and, unless auscultation is carefully practised, and often repeated, there is little to call attention to the state of the respiratory organs until the accumulated secretions in the bronchi have already seriously interfered with the entrance of air into the pulmonary vesicles, and have occasioned the collapse of a considerable extent of the substance of the lungs.

There are other causes by which life is sometimes cut short in the course of infantile diarrhœa. The *disturbance of the nervous system* that attends the attack issues now and then in convulsions, and these convulsions end in a state of stupor which terminates in death—an occurrence fortunately rare, but of which instances may be observed during those hot seasons of the year when bowel complaints are usually epidemic. Less rare than a fatal termination of this kind is the infant's death under symptoms of a gradually deepening coma, which may have supervened on the suppression of the diarrhœa, or its great mitigation. Many of the symptoms by which this condition is accompanied are such as to indicate the exhaustion of the infant's powers; but it happens in many instances that there is an occasional flush of the face, or a temporary heat of skin, or some other passing sign of an attempt at reaction, just sufficient to mislead the practitioner, and to betray him into a vacillating line of practice that proves fatal to his patient.

Lastly, there are cases, and these by no means few, in which the onset of a severe attack of diarrhœa has been promptly met and judiciously treated, in which the symptoms have yielded, and the child has appeared convalescent. Some slight error in diet, however, a variation in the temperature, or the too early withdrawal of medicine, is followed by a return of the vomiting and purging; or the *relapse* may take place without our being able to assign for it any adequate cause. The active symptoms which attended the original seizure are absent now; the evacuations, though very watery, generally contain neither blood nor slime; but medicine is often wholly unable to check them. The vital powers fail speedily, and death often takes place in three or four days from this exacerbation of the symptoms, while an examination of the body after death shows no evidence of recent mischief in the intestines, but only the traces left by the first attack, and these manifestly in course of disappearance.

We must postpone until the next lecture the very important subject of the treatment appropriate to all the varieties of diarrhœa and its different complications.

Original Communications.

ON THE ACTION OF THE OMO HYOIDEUS, &c.

By F. C. Skey, F.R.S.
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Although the action of the muscles of the os hyoides may be supposed to have been well and sufficiently considered, forming as it does a part of the staple commodity of the lectures annually delivered in our anatomical schools, yet I think we may extract from this hacknied subject material for further reflection, and form deductions which in some essential respects differ from those which are usually received by physiologists.

The muscles in question are the reputed depressors of the os hyoides and larynx—viz. the omo hyoideus, sterno hyoideus, thyro hyoideus, and sterno thyroideus; and my remarks apply more especially to the first of this series. The uses commonly assigned to them by authors and lecturers is that of replacing the larynx in its position in the neck, after its elevation in the act of swallowing, by drawing down the os hyoides.

Bell says, "these muscles pull the throat down; the omo hyoideus draws it directly down, and braces the trachea a little backwards.

Cloquet assigns to the omo hyoideus, "depression of the os hyoides backwards to the sterno hyoideus, depression of the os hyoides, and indirectly the lower jaw."

Quain.—"These muscles depress the larynx, for they draw the parts down as deglutition is being performed. After the ascent of the pharynx and os hyoides has been effected, the parts do not return to their original position by the mere relaxation of the elevators, they are drawn down by the above muscles."

Cruveilhier.—"They all concur in depressing the lower jaw." "If the jaw be fixed, they produce flexion of the head." "When the omo hyoidei act together, the os hyoides is forced backwards against the vertebral column."

Meckel.—"The omo hyoideus draws the os hyoides downwards, backwards, and a little to one side."

The larynx, as is well known, is placed on the summit of an elastic pillar, which we can contract or elongate at will. This pillar is the trachea, which is elongated by the elevators, and contracted by the depressors. On the cessation of the action of both, the organ recovers its natural position of rest, which corresponds with the fourth and fifth cervical vertebræ; and this holds true of the larynx both living and dead, being dependent on a material whose attributes are equally perfect when examined in the dead or in the living subject—a structure independent of muscular contraction.

To do justice to the action of these muscles, we must assign to the larynx and os hyoides the middle place between them, and conclude the organ to be raised from its state of rest by one class, (the elevators), and to be carried down from that state by the other, (the depressors.) To infer that the depressors possess the power merely of replacing the os hyoides and larynx after elevation, is to deprive them of their action altogether, because these parts are replaced by their own elasticity, and require *no muscular action* for the purpose. Their action will, I think, be found to involve a highly important, and hitherto unacknowledged function —viz. depression of the os hyoides, &c. towards the *sternum*, by which action the rings of the trachea are made to approximate, and the whole structure, consisting of the os hyoides, larynx, and tongue, is carried forcibly downwards. On the cessation of this contraction, the elastic pillar rises to its position of rest in the neck. There can be no doubt, I conclude, that the important office assigned to these muscles is that of *imbibition by suction*, effected by creating a vacuum, and engaged in many important purposes. When a vessel, a tumbler for example, containing fluid, is brought into contact with the mouth for the purpose of drinking, the first instinctive act consists in adapting the lips to the surface of the vessel. The soft palate is drawn down to touch the roof of the tongue; prior to which a deep inspiration fills the cavity of the chest. The soft structure of the lips is well adapted to the purpose of closing in upon the fluid, and excluding the atmospheric air. A vacuum is then attempted by the depressors of the os hyoides, and by atmospheric pressure the fluid fills the closed cavity of the mouth. These agents appear to be the omo hyoid primarily and especially, combined with the sterno hyoid, and thyroid muscles, and aided by the thyro hyoid. Of these muscles, the three latter invariably exist in man, and in a large majority of animals; the omo hyoid by no means so.

In examining the neck of such animals as drink by lapping, in which the vacuum of the mouth, or rather the act of suction, is not required for the purpose of drinking, I find the omo hyoid invariably absent. Looking at the direction of this muscle in its entire course, it is not easy to comprehend its supposed action *backwards*, for the hyoid portion is really vertical, and not obliquely forwards, which course its fibres would have taken, had it been intended to act in this direction. Nor is there any thing eccentric or remarkable in its remote origin from the scapula. when we consider that the first rib as well as the clavicle are disqualified for such attachment, the rib being entirely occupied by the origins of the scaleni, and the subclavian artery and vein; there is in fact no room for it. To the clavicle, indeed, the omo hyoid is extensively connected by a strong band of fascia, by which the action of its double belly identifies its two portions with each other, as in the case of the digastricus and superior oblique muscle of the orbit. It is very true that the origin Nature has selected is itself so far an objectionable one that the action of the omo hyoid may be materially impaired by approximating its attachments in the act of raising the shoulders; but this is so unnatural an action, and requires the exercise of so large and powerful muscles, that it cannot frequently interfere with the ordinary function of the muscle, though I shall endeavour to shew that it may do so, on occasions.

That the omo hyoid muscle is the chief agent by which the act of suction is effected when employed for the purpose of drinking, may be inferred from its total absence in all animals that drink by lapping. By the kindness of the Council of the Zoological Society, I have been permitted to examine a large variety of animals that have died at the gardens of the Society in London, including most of the large carnivora, the monkey tribe, lemurs, porcupine, raccoon, agouti, coati mundi, jerboa, and the domestic animals—dog, ox, horse, &c.; and I have found no variety in the law I have referred to,—the truth of which will acquire some degree of confirmation from the result of the following experiment. It is obvious that the origin of the omo hyoid muscle, as above stated, must hold a different relation to the os hyoides, according to the position of the scapulæ, whether at rest or raised by the trapezius muscle,—that is to say, if the scapulæ be raised to the fullest extent of the elevators of that bone, the two extremities of the omo hyoid muscles will be approximated, and the power of the muscles abridged or destroyed. If the mouth be filled with fluid by the greatest effort of suction, while the shoulders are raised, one half of each omo hyoid are paralysed, and the quantity of fluid admitted will be limited. The shoulders now being brought down to the natural level of the chest, the omo hyoid is elongated, and, in fact, placed in a condition to contract on the os hyoides to the full extent of its power, a much larger additional quantity of fluid may be received by the mouth. Now there is but one muscle concerned in deglutition, &c., the condition of which can possibly be affected by this action of the shoulders, and that is obviously the omo hyoid. The omoid portion, or origin of this muscle, does not invariably derive its fixed point of action from the scapula; and in all animals the name omo hyoid is not warranted by its attachment. In the ox and in the giraffe, and probably in other animals, this muscle consists of a single fasciculus, running obliquely backwards towards the transverse processes of the fifth and sixth cervical vertebræ; in some, passing behind the carotid sheath; and in others, as in the large majority of animals, and in man, being superficial to them. But, so far as I have observed, it is *invariably found in every adult animal that drinks by suction.*

To this law a large exception must be made in favour of the young animal, which, in the whole of the mammalia, drink by suction—an exception so extensive, that it would appear to invalidate the entire law of action of the muscles in question. But it ought not really to do so. It is probable that the act of suction of the young mammal is a process effected by the tongue itself when enclosed around the nipple of the mother, and that the point of the organ only is brought into action when protruded between the lips; and that the action of the entire tongue is not involved.

The bony scapula would therefore appear the only point by which an origin could be afforded it. The omoid portion is held down by fascia connecting it to the clavicle, and continuous with that of the axilla. The muscle becomes tendinous as it crosses the large vessels, and then commences its second or vertical portion, which is inserted above into the os hyoides; and it is necessary to observe that the connection to the sterno hyoid muscle, along the outer side of which it ascends, is singularly dense and unyielding. This structure is very unlike that which, under the term of general cellular tissue, connects other contiguous muscles, but consists of well-characterized fascial tissue. Failing such a material, the depressing action of the muscle would be lost. This action is of course vertical, the os hyoides being drawn by its contraction in a straight direction downwards in the mesial line.

In point of the principle of their construction, there may be found considerable analogy between that of the mouth, and chest. In the latter we have a large cavity, operated on through the medium of elastic walls, and a large moveable base occupied by the diaphragm. The ingress of air is effected and regulated by this muscle, by the contraction of which, a tendency to a vacuum is formed, and the air rushes into the lungs. The diaphragm then ceases to act. The antagonist power which succeeds is the elastic walls of the thorax, which, contracting on their contents, expel the air by their natural recoil, and then regain a state of rest, till again elevated by the intercostal muscles waiting on the renewed action of the diaphragm.

Very similar to the above well-known operation is the action of the agents of imbibition by the mouth, which, like the chest, is closed on all sides during the act which fills the cavity, and which possesses muscular walls in the buccinators contracting on the contents when admitted in larger than ordinary quantities; and to these may be added a false bottom or muscular base resembling the diaphragm, effecting and regulating the amount of contents admitted into the cavity. Both of these cavities illustrate the alternation of elasticity with muscular action, the antagonist power of the diaphragm being situated in the parietes of the chest, the antagonism of the depressors of the tongue being effected even more directly by means of the recoil of the trachea; and I may venture to remark, in passing, that no design could have been more perfect, and no precaution more absolute, against the fatal effects of the absence of antagonism to the depressors of the larynx, during the action of which the function of respiration is momentarily suspended.

It is not only in the act of drinking in the adult animal that the action of the omo hyoid, in conjunction probably with the other depressors of the os hyoides, is brought into play, but their contraction will be found the cause of every act by which a limited current of any fluid is admitted into the cavity of the mouth by an effort, as in the act of smoking, or in that which, regulated by the aperture of the lips, a lesser current of air is forced in through the teeth to remove any particle of food that may have been retained there. Under all these actions, the contraction of the outer or omoid portion may be felt by the finger pressed upon the muscle above the upper border of the clavicle, and on the outer side of the mastoid muscle. Even in the slight action of kissing, which is but a modification of the same function, the agency of the omo hyoid will be perceptible to the finger on pressure. It is obvious that the act of suction must be dependent on the healthy function of the valve or flap of the soft palate or some substitute, without which the tendency to a vacuum would be transferred from the mouth to the thorax. The omo hyoid cannot be brought into action until the soft palate has closed the posterior opening of the mouth; failing which, the fluid carried into the mouth by atmospheric pressure would pass immediately into the larynx.

Connected with this arrangement of the muscles of the tongue and os hyoides, is the origin and distribution of the branch of hypoglossal nerve called the "descendens noni."

In man, the "descendens noni" is a compound nerve, produced conjointly by the hypoglossal and by a cervical nerve; by far the larger portion of its filaments, however, being derived from the former. This formation of the nerve would probably in itself point to the identity of action, or rather to the mutual dependence of action subsisting between the tongue and omo hyoid muscle. If the office of a plexus be that of harmonizing the functions of parts supplied therefrom, a kind of plexus is thus formed which identifies the action of the omo hyoid muscle with the tongue in the act of imbibition.

In animals deprived of the omo hyoid, the nerve commonly known as the "descendens noni" has a similar communication from the hypoglossal and from the cervical, but with this difference—that by far the greater number of its filaments is obtained from the cervical, from which, indeed, it appears to originate. It then descends along the convex arch of the hypoglossal, and receives some few additional filaments from that nerve; whereas in the other examples it is almost exclusively formed by the hypoglossal only.

It is therefore a "ramus descendens noni" only where the omo hyoideus muscle is present—this muscle being found in such animals as drink by suction: at least, such is the result of my limited investigations on the subject.

Grosvenor Street,
June 1848.

A CASE OF

CHRONIC INFLAMMATION, WITH RELAXATION OF THE LACHRYMAL SAC:

WITH FURTHER CASES AND REMARKS ILLUSTRATING SOME POINTS IN THE PATHOLOGY AND TREATMENT OF SOME OF THE EXCRETING LACHRYMAL ORGANS.

By H. Burford Norman, F.R.C.S.
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Mrs. Halifax, a respectable elderly female, who had enjoyed better circumstances than her present in early life, became a dispensary patient, under my care, Jan. 1, 1848 She has all the appearance of perfect health, which she says she enjoys, never requiring any medicine, except an occasional aperient to regulate the action of the bowels. For some years past she has been troubled with a "watering" of the left eye, amounting to a considerable overflowing of the tears on exposure to cold air. On several occasions a large swelling has formed near the inner canthus on the side of the nose. It has always been dispersed by means of hot fomentations. About three months ago, a swelling larger than she had ever known it before—as large as a walnut—formed, and was dispersed temporarily, but soon reappeared, and burst upon the cheek, discharging its fluid contents. The formation of these swellings has always been accompanied by much pain and throbbing, and by a dull aching down the side of the nose. She says they have never been accompanied by purulent discharge from the eyelid, nor, on pressing on the swelling at any time, could such matter be made to flow back through the puncta, and that the discharge on the last occasion was quite clear. At present there is no appearance of swelling on the lachrymal sac, but the integument covering it is of a dusky red colour, much indurated, and a scab covers the point at which the swelling burst. On pressure, there is no regurgitation into the inner canthus, nor is there any puriform secretion from the lids or globe. There is neither ectropium nor entropium. The puncta are in natural position, and the canals quite pervious; a probe was readily passed through them to the lachrymal sac. The caruncula lachrymalis and conjunctiva only a little redder than natural; yet the stillicidium lachrymum is constant, and, on exposure to a cold draught, it is most uncomfortably augmented.

Treatment.—Let the affected part be frequently fomented with hot decoction of poppy-heads and chamomile flowers. Let one leech be applied to the discoloured integument; and every evening let a soft warm bread-and-water poultice be applied on the same part, and worn through the night. The bowels to be regulated by a dose of blue-pill and colocynth on alternate nights.

4th.—Since the last visit a swelling has recurred in the sac, and its contents were discharged through the nose. The dusky redness of the skin has increased, and extends along the edge of the orbit. There is more induration also. No regurgitation by pressure on the sac. A drop of solution of nitrate of silver placed in the inner canthus was immediately taken up by the puncta. The same treatment to be continued.—℞ Argent. Nit. gr. i.; Aquæ Destill. f℥j.; F. Sol. Instill. Gutt. in canth. oculi intern. nocte maneque. ℞ Unguent. Hydrarg. Mitior, ʒiij.; Camphoræ, ℈j. tere simul ut F. Ung. cujus infricetur paululum in cutem induratum nocte maneque.

11th.—The dusky redness of the skin much lessened; two *whitish hard elevated* spots mark the position of the leech-bite, and of the ulceration through the sac, which is cicatrized. Conjunctiva paler; less stillicidium. She only finds the eye "water" on exposure to cold. Directions have been carefully followed, and to be persevered in.

25th.—No induration over the sac, and scarcely any discolouration; the tears never overflow, except on sudden exposure to cold. She feels much comfort in her improved condition.—Treatment to be continued.

Feb. 8th.—There is no sign of disease left, and the eye is never watery, except very slightly on sudden exposure to a cold draught of air, and then much less than it was wont to be. She was discharged as cured, but recommended to continue to use the ointment and fomentation, and cautioned particularly not to neglect the state of her bowels.

May 31st.—I have not seen or heard of the patient up to this date, and have every reason for believing that I should have done so had there been a relapse.

In reflecting upon the foregoing case, one is led to inquire—What was the condition of the lachrymal passages which occasioned or existed in those frequent distensions to which the sac appears undoubtedly to have been subject? And, in replying to the question, it is necessary to bear in mind the different conditions under which such a state of distension may arise. First, the lining membrane of the lachrymal sac, like other portions of the mucous membrane, is liable, under the influence of common causes, to acute inflammatory attacks. In such the ordinary secretion of healthy mucus, sufficient only to lubricate the surface (or, if redundant, still quickly removed by its ordinary channels as fast as secreted), is suspended, and, in its stead, a muco-purulent or decidedly purulent secretion takes place in very unnatural and excessive quantity. If such disease occur on a free mucous surface, as that of the palpebra, or in one like that of the vagina, from which the abnormal secretion can readily find escape, the local suffering may be restricted to a slight itching or smarting of the part, or there may be also a degree of general pyrexia; but if the secreting surface be bound down, so to speak, by dense structures, and be so formed or situate that its morbid secretion must accumulate, the symptoms and signs of an acute abscess, throbbing, aching, and great local tenderness, together with swelling, heat, and redness of the superjacent integument, are added. Of this, a very striking illustration occurs in the acute abscesses which form in certain bursæ, though the membrane lining such cavities possesses a somewhat different anatomical structure from that of the mucous surfaces. But in such acute attacks, the cavity now under consideration—the lachrymal sac—is potentially in the same condition with a synovial bursa not possessing an outlet. Its lining membrane is not alone the seat of vascular turgescence; the nasal duct participates most commonly, if not always, in the diseased action: its calibre is either annihilated by the turgescence of its walls, or so nearly so, that the morbid secretion of the sac cannot pass down into the nose; its dense fibrous walls become distended; the resistance which they and the surrounding bony structures afford to the distending force within, augments the local irritation, and a very painful throbbing exists in the seat of disease; the pain extends down the nose and cheek, the external surface becomes extremely sensitive, and much irritative fever co-exists. It rarely happens that the disease, arrived at such a state, subsides without the formation of an opening through the integuments, by ulceration or by the surgeon's knife; for the calibre of the lachrymal canals is at the same time so much diminished also by participation in the disease of the sac, that they afford no backward course to the accumulated secretions, nor way of escape for the secretions of the conjunctiva and lachrymal gland. These, therefore, increased, and generally vitiated also, escape by overflowing the lids, and constituting stillicidium or epiphora. Now this affection is as little liable to frequent repetitions as it is to spontaneous subsidence; nor do I think the degree of suffering to which the present patient was subject, was such as this acute affection would have occasioned.

Again, the lining membrane of the lachrymal sac and nasal duct may be the seat of a lower form of inflammatory action, leading to a certain amount of obstruction to the due passage of its own secretions, and those from the lids to the nose. The secretion of these parts may also be augmented and changed in character, and a swelling form in the site of the sac. This chronic affection may originate in the sac or nasal duct, as a consequence of a cachectic condition of the system at large, or of disease affecting their bony protections; or it may be occasioned by the extension of similar disease from the conjunctiva of the eyelids. It is altogether chronic and indolent, liable to increase and diminution from variations in the general health—in the dryness or moisture of the atmosphere, &c. The distension of the sac is seldom great; its contents consist either of a clear fluid, (tears probably), interspersed with small white flakes, or of a thin muco-pus, resembling that discharged from chronic abscess, and they can be forced by a little pressure either into the nose or into the inner canthus of the eye, in most cases. Of this the patient is often aware experimentally, and without teaching. In other instances, when the swelling is very slight, he is not conscious of any disease existing, except from the occasional overflowing of the tears, and sometimes from the agglutination of the lids on awaking from sleep. Often, too, a few white shreds or flakes may also be seen floating in the tears retained between the lower lid and the globe. This affection sometimes ceases spontaneously, and recurs at uncertain periods; but seldom is the natural subsidence so complete, as for the patient to lose altogether the "watery eye." It affects both the young and the old, but chiefly those of either state of life, who present a general state of health that might be called *low*, or a constitution decidedly strumous.

3rdly. There is a state termed relaxation of the lachrymal sac, in which that organ is subject to very *considerable* distension. In this form of disease a tumor forms on the site of the lachrymal sac, and consists, indeed, of the sac, whose natural dimensions are by reason of a state of laxity readily distended by the secretions of its own lining membrane, and those which enter it by the lachrymal canals. It is an affection accompanied by little pain or suffering, as compared with that felt in the acute cases, though the tumor attains a large size; it produces, like all these impediments between the eye and the nose, a stillicidium lachrymurum, is relieved from time to time by pressure, which propels its contents either into the nose or eyelds, and is due, perhaps, not only to a laxity of the lachrymal sac, but also to a chronic inflammation of its lining membrane, and to a slight thickening of the membrane of the nasal duct. It perhaps deserves not a separate name, but may, I think, be considered as a more chronic form still of inflammation or blenorrhœa, accompanied by a lax and easily distended state of the sac from frequent attacks. The secretions are in this class of cases somewhat changed and opaque. The application of a compress over the lachrymal sac, with due attention to the general health, and the use of such means as improve the secretions of the eyelids, and can reach the sac itself, will be often attended with a complete and permanent cure of the disease. It is seldom necessary to open the sac.

4thly. A far less frequent form of disease attended with a tumor of the lachrymal sac is that termed mucocele —a tumor occasioned by a collection of mucus in the sac, the ducts communicating with which, and the lids and nose, being impervious, the contents can neither be made to regurgitate upon the eyelids nor into the nose; and can therefore only escape by some opening either artificially made or occasioned by ulceration. It is obvious that no *permanent* relief can be given in this state of things, by any means that fall short of suppressing the secreting power of the sac, and that even such means will fail of removing that which is the great source of annoyance to the patient—the overflowing of the tears upon the cheek.

Of the affections thus briefly described, I should be inclined to refer the case which has been detailed at the commencement of this paper to the second and third varieties—or in other words, should describe it as a case of chronic inflammation of the lachrymal sac with relaxation. It had not the active character of acute inflammation, though subject to occasional accessions, and though the induration and discolouration of the integuments prove the inflammatory character of the disease. The occasional complete subsidence of the tumor by discharge through the nose, and its final subsidence under the means used, shew that the nasal duct was not obliterated. The absorption of fluids by the puncta lachrymalia proves that both those and the canals to which they lead were still patent. It was not, therefore, a mucocele. It was just one of those cases which one engaged in much ophthalmic practice meets with from time to time, and which confirms him in the propriety of resorting to other measures than those of an operative and mechanical character. I am confident that the opening of the sac, and the introduction of tubes and styles, is yet far *too indiscriminately* resorted to in slight obstructions of the lachrymal passages, and I have quoted the preceding case, not because it is unique, but as a text, and with a view of confirming by further observations that which has been so ably stated on this subject by more experienced observers again and again before. I have met in the course of my practice in the last few years with many cases, both acute and chronic, which have yielded so completely to the steady use of local and general medical treatment, that I very rarely resort to instrumental means, reserving these for very obstinate chronic cases, in which the nasal duct seems to be so much contracted and so permanently obstructed, that other means prove futile; and for very acute cases in which a considerable collection of matter has formed in the sac, before I have had the opportunity of using antiphlogistic treatment, and there is danger of its bursting upon the cheek in such a manner as to occasion a true fistula lachrymalis. In the former cases I introduce a style at once; in the latter I content myself with opening the sac, which being thus enabled to discharge its contents, the functions of the parts frequently recover their natural condition under ordinary treatment, though it becomes *sometimes* necessary after a time to introduce a style or tube.

I had a young woman under my care about a year and a half ago, suffering from partial amaurosis of the left eye, and stillicidium lachrymum. She was in a very cachectic state of constitution, from vicious habits and want,—there were reasons for believing that she had been the subject of secondary syphilis, but no history of the primary disease could be obtained. The lachrymal sac was but little distended, but a muco-purulent matter could be pressed out through the puncta upon the lids; the bridge of the nose was somewhat fallen in. Her general health improved under the use of sarsaparilla, &c., but various local means, perseveringly tried, were unavailing to cure the obstruction of the nasal duct: under these circumstances I attempted to pass a style after opening the sac, but the passage of the instrument was prevented, apparently by a piece of diseased bone. Some time after, a piece of carious bone escaped from the nostril, and a cure quickly followed, whilst the amendment of the general health was sustained by improved circumstances and better habits of life; the eye recovered its functions perfectly on the restoration of the health.

A very similar case has occurred much more recently in my practice, in the person of an Irishman, about thirty years of age. In this patient, however, the habit of body was much more debilitated, the nose was much more flattened, and a profuse fœtid discharge from the nostrils accompanied the disease. The introduction of the style was attempted, after a long trial of other means, but was prevented by a similar obstruction to that which existed in the preceding case. Several pieces of bone have come from the nostrils at different times since, but the blenorrhœa of the sac has not entirely ceased. The patient has also suffered very severely from sloughing and ulceration of the palate and fauces, from which he is only now, after some months of treatment, recovering; and as extensive disease of the bones of the nose exists, I have not thought it right to irritate the parts by any recurrence to instrumental means. In this determination I am actuated by the conviction that those means would be unavailing at present; by the fact that the disease affecting the nostrils, and the general state of cachexia, are diminishing under general treatment; and by the check that is maintained upon the stillicidium by occasionally pressing out the secretions of the sac upon the lids, and by the use of astringent lotions.

In these cases the disease of the nasal bones caused that of the lachrymal passage. One of the worst cases of blenorrhœa of the lachrymal sac that I have seen, unaccompanied with fistula lachrymalis, or disease of the adjacent bones, was that of a little boy about five years old. Both lachrymal sacs were involved, but neither of them was much distended, though from both one could always press out a considerable quantity of opaque fluid upon the eyelids. These parts were also slightly inflamed, and their secretions both increased in quantity and changed in quality. The skin of the cheeks was dry, hard, red, and scaly, from the overflowing of the tears. The upper lip was swollen and thick; the orifices of the nostrils excoriated; the Schneiderian membrane dry, hard, and skinlike; and the meatus so contracted by thickening of the parietes that a common probe could not be passed through one of them, and the other would not admit anything much larger. He was slightly deaf, and his tonsils were much enlarged. His constitution was most decidedly strumous, and the intestinal secretions were much disordered.

Here the cause of the local malady was clearly constitutional.

By the exhibition of alterative medicines and steel,—by the introduction of small greased bougies into the nostrils,—by systematically and regularly emptying the lachrymal sacs, and dropping into the inner commissures of the eyelids weak solutions of nitrate of silver, &c.,—by careful attention to diet, clothing, and cleanliness, much benefit was derived to the general health, and the state of the eyelids and lachrymal sac were improved. I had reason to expect a cure, but the parents became impatient, and I lost sight of the case. Whether the use of styles would have hastened the cure I do not feel certain, but should have given them a trial, had not a fair perseverance in the constitutional and local treatment already indicated have proved effectual alone.

But as I have already said, I prefer what seems to me the more rational treatment—by medicines, &c.—so long as there are constitutional defects to be remedied, and a fair hope of their success exists.

Experience convinces me of the frequency with which disease of the lachrymal sac is to be traced to an inflammatory condition of the conjunctivæ of the eyelids, which is propagated by continuity of structure along the lachrymal canals to the sac, as was long ago insisted on by the late Mr. Ware; and of the frequency, also, with which the disease of the sac may be successfully managed by the means in ordinary use for chronic inflammation of the conjunctiva, as also urged by that experienced oculist. It may seem out of place and uncalled for to insist at any length upon this doctrine, which is now more generally admitted than it was in former times; but I believe that however generally admitted as a *doctrine*, it is not sufficiently acted on as a *principle*. The local malady may in so many instances, and so speedily, be remedied by operative treatment, that it has many advocates. The idea, too, that *one* line of treatment will suit almost all cases, has its attractiveness. Operations have their charms, also, in the direct character of their results; whilst a long, and it may be a tedious, medical treatment, has its demerit. Its results are less direct and less obvious. But the question is—which is most consistent with scientific principles; which is most truly beneficial to our patients? I would answer for myself, that which aims at the root of the evil first—the constitutional and local medical general means; these may be judiciously aided by the surgical and mechanical, as auxiliary to them; but when the latter are placed first, I think they generally take the wrong place, and are likely to lead to the neglect of the former, for very few of these cases, if any, are unaccompanied with some more general derangement of the system.

In the foregoing remarks I have not alluded to cases of no unfrequent occurrence, in which one does not see the patient until fistula lachrymalis has occurred. In most of these cases the fistula cannot be cured without surgical treatment; and to avoid further mischief, it is well immediately to enlarge the fistulous aperture, making at the same time a more direct opening into the sac, and to introduce some dilating instrument through the nasal duct into the nose. Even in such cases, however, recovery does *occasionally* take place, as I have seen, under topical and general medical treatment, where it has been fairly tried, in consequence of operative measures having been refused by the patient. But I should not counsel the delay of an operation here, as I should in those cases before alluded to, in which the lachrymal sac has not burst, and can be emptied by pressure. The circumstances are widely different: and whilst in the one case nothing is to be feared from delay, in the other the structures of the lachrymal sac may be so injured by the extension of the ulcerative process which has already occasioned the fistula, that its functions may be permanently and irrecoverably destroyed.

It is no part of my object on the present occasion to discuss other methods of restoring the functions of the lachrymal passages by the introduction of instruments into the nasal duct, either from the nostrils or through the lachrymal canals. These, with the system of treatment by injections into the sac, will form another subject for inquiry.

ON THE APPLICATION OF

THE GALVANIC PLATES AND "ELECTRIC MOXA."

(*Read before the Pupils' Physical Society of Guy's on the 20th Nov. 1847.*)

By Joseph Hinton,
One of the Presidents of the Society.

Among the numerous remedies which from time to time have occupied the attention of medical men, few have been brought into notice without exciting various opinions regarding their utility: being on the one hand considered indispensable—the *sine quâ non* of successful practice; while, on the other hand, others have scarcely deigned to inquire into their method of action, much less to make any practical use of the discovery. Valuable remedies have shared the fate of the quackeries of a day, and have been laid aside, to be again brought forward more prudently, and ultimately with better success, by succeeding generations. Such has been the lot of an agent which is now justly considered a most important remedy—I allude to electricity. When first introduced it attracted great attention, and was soon considered infallible; experience, however, proved that this title had been unmerited, and in a short time this useful and valuable agent fell into disuse. But as the means of employing this important remedy were improved, it gradually crept out of that obscurity into which it had so undeservedly fallen, and being placed on the safer foundation of careful experience, it again advanced, and from that time the benefit resulting from its employment has steadily increased; numerous cases of recovery from paralysis, and nervous affections of various kinds, have been greatly expedited by its application. The special employment of this remedy to which I wish to draw attention is its use as a counter-irritant, a stimulant to the nervous system, and even as a caustic.

For this valuable application of electricity we are, I may say, wholly indebted to the researches of Dr. Golding Bird.

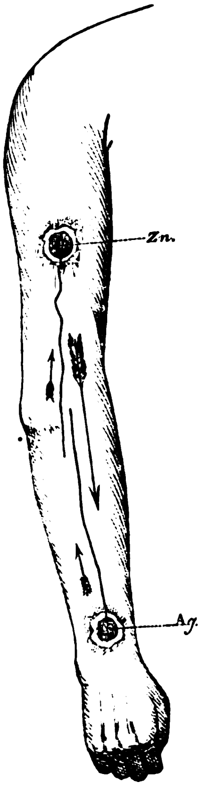
I will first lay before the Society a short account of the case in which it was employed as an experiment, and during the recital of the case the method of applying this apparatus will be fully shewn; following up the report with a few remarks on the case itself, which was of peculiar interest, and then briefly touch upon the practical application of the *Electric Moxa.*

CASE.—Thos. M——, aged 32 years, was admitted Dec. 30, 1847, into No. 5, Naaman ward, with hemiplegia of the right side, under the care of Dr. Golding Bird. He is married, by trade a tanner, and has always enjoyed good health; habits temperate; no hereditary tendency discoverable. The following history was obtained:—On the 12th of this month he retired to bed in apparently good health, but during the night his wife was disturbed by his making a peculiar noise with his mouth; on obtaining a light, however, he appeared to be asleep, and when roused, said there was nothing the matter. Some incoherency of speech was noticed, but attributed to sleep. He was restless during the remainder of the night, and in the morning it was discovered that the right side was completely paralyzed, the speech very imperfect, and the face considerably drawn to the left side. He was attended by a medical practitioner; and the more alarming symptoms subsided under antiphlogistic treatment, the leg rapidly regaining power; so that when admitted he could walk tolerably. The following were his symptoms on admission: occasional pain over the forehead, with some degree of vertigo; no loss of memory; constant tendency to laugh when spoken to; paralysis of the right facial nerve; both pupils dilated, especially the left; both acting freely. The arm is perfectly motionless, but when he gapes, it rises involuntarily; the leg drags slightly; sensation is somewhat deficient over the upper extremity. The tongue turns to the paralyzed side, and has a tolerably thick fur on that side only. Heart's action normal; pulse 60, full, labouring, firm; bowels regular; the urine acid, and remaining unaltered on the application of heat. The head is rather narrow and long, but the forehead is well formed.

After the bowels had been well acted on, electricity was used daily in the form of sparks drawn from the spine, and he certainly improved; on the 8th of January the sulphate of zinc was ordered in grain doses, three times a day.

Jan. 15th.—Feels much better; countenance improved; twisting of face scarcely noticed; pupils equally dilated; tendency to laughing continues. He can now walk without a stick. Power of motion increases; he can partially throw out the arm, and in the morning can clasp the fingers a little; this power, however, is soon lost. He sleeps badly.

From this date little alteration took place until the 18th, when Dr. Bird ordered the following plan to be adopted. Two blisters having been formed, one about the insertion of the deltoid, and the other over the posterior part of the wrist-joint, a zinc plate, the size of half a-crown, with copper wire attached, was applied to the upper and a silver plate to the lower. Over each plate, water dressing was applied,



and above this, oiled silk (merely for the purpose of retaining the moisture), which was secured by strapping. The arm was then enveloped in a loose roller, through the folds of which the wires connected with the plates protruded, and on contact being made, the patient experienced a tingling sensation *at the silver plate alone.*

19th.—About 3 A.M. he experienced severe pain in the arm, which soon wore off. Motion very much improved; the arm can be raised to a level with the shoulder, and power over the fingers is greatly increased. The patient was quite delighted at the sudden progress which he had made. Tingling sensation still experienced. The apparatus was taken off in the evening; the surface of the upper sore (zinc) was coated with a firm whitish matter, like lymph. Nothing peculiar about the lower sore; the plates were again applied. For the next few nights he experienced severe pain and spasm of the muscles of the arm, but this did not last long. On the 20th and 21st, he thought that there was less motion, but on trial he could still lift the arm on a level with the shoulder. On the 22nd, he lifted it above the level of the shoulder, and could clasp slightly. On the 23rd, he could lift his arm on to his head. The slough forming on the zinc sore, appears to increase in thickness Before taking off the apparatus, I tried whether any current was passing, but failed in obtaining any decided effect on the galvanometer. With another patient, who was then in the house, by constantly breaking and reforming the current, the needle moved over an arc of 30°.

On the 29th the slough was found to be separating, and exuding a thin sanious pus. The apparatus was ordered to be discontinued, and a bread poultice to be applied. A faint blush is all that remains of the sore above the wrist.

31st.—The slough has separated, leaving a most perfect specimen of a healthy granulating sore.

The sore began to heal rapidly, its healthy character continuing—the pus poured out being perfectly healthy. Power over the arm increases.

He continued to improve up to Feb. 11th. The dose of zinc was then increased, and gradually reached seven grains three times a day; but for the next fortnight the power of motion, if anything, decreased. He again went to the electrifying room, and again he improved. The sore had now nearly disappeared, maintaining a healthy character, until nearly healed. The granulations then became rather flabby. On the 27th, he was made an outpatient.

As connected with this case of hemiplegia, there are several points of great physiological interest.

1st. Emotional tendency.

Dr. Watson, in his Lectures, says, "after the coma has passed off, there are two ways in which the patient may be affected—1st, defective memory, more or less partial; and 2nd, a peculiar tendency to emotion, especially *emotions of grief;* the patient will weep from slight causes long after the attack of apoplexy has passed off." Now, here, the loss of memory, if present at the onset, shortly disappeared; the emotional tendency, however, was well marked, but it was of quite a different character from that usually observed, being here characterized by a desire to laugh. The patient himself was perfectly aware of it, but was quite unable to prevent it, often remarking that it was very silly; when last I saw him in the summer, it was still present. These tendencies to various emotions may in some cases materially assist the diagnosis, as they are frequently present before the attack. Dr. Watson mentions several cases, and remarking on them, adds, "these and many other signs indicate a disposition to the disease. They show, that, even before the stroke descends, there is some morbid process going on within the skull." On this account, then, these symptoms are of importance, as they may enable us to ward off an approaching attack by appropriate treatment.

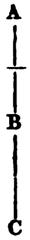
2ndly. As regards *sensation* and *motion.* The law in cerebral paralysis is, that motion is more affected than sensation. When we meet with cases, in which the opposite is shewn, we must look for some functional disturbance, some poison circulating in the blood, rather than to the existence of a clot. The influence of the inhalation of ether is a case in point, motion being little affected. Dr. Gull has offered the following explanation of the cause:—he says, "the law of lesion is this—any given injury to the fibres diminishes the power of motion more than that of sensation, whether the lesion be in the fibres passing from the corpus striatum, or from the optic thalamus to the convolutions." Two conditions arise from this—1st, the fibres of the sensory nerves are much more, say one-third, more numerous than the motor, if we may judge from the size of the posterior roots, as the ultimate fibrils have the same diameter. The ultimate stimuli, also, to the sensory nerves, are more numerous than those of the motor.

"2dly. In *sensation*, the seat of perception is to a degree passive; in *motion*, it is an origin of power. It is evident that in the former a less vital condition is required than in the latter: hence *à priori* we should have concluded that a given injury would have destroyed volition more than sensation; and we should also have concluded that injury would first deprive us of directive influence, and then of the power altogether. These remarks are made, as bearing upon the received theory of their being distinct centres for sensation and motion, which hypothesis seems to have been unwarrantably built upon the great discovery of Bell on the double function of nerves, which discovery is by no means opposed to the idea of sensation and volition being in the same centre."

3dly. The more rapid recovery of the leg. This is important, inasmuch as it may mislead the inexperienced to suppose that the arm will also recover. Unfortunately this is too frequently found to be a false hope; hence the prognosis as regards the arm should be guarded. The reason for this Mr. Mayo supposed to be, that some shock was transmitted from the injured brain, and that in consequence it affected the nearest part most. Dr. Watson remarks, that if this were the case, we ought to have it always present; but, out of 75 cases collected by Andral, 12 were of the leg alone. Dr. Gull offers the following explanation:—"The spinal cord, the nerves arising from it, and the muscles to which they are distributed, form a mechanism for motion, which acts according to laws included in its formation, and which can be modified by habit, becoming part of the law of the machine, and termed *automatic*. The volition, having its origin in the encephalon, can direct and move the machine. From observation we find that the voluntary influence can be directed with the greatest precision and force upon the upper extremity. We also find, from observation, that, the spinal cord being separated from the direct influence of the encephalon, the arm reacts less on an impulse being given to its nerves, than the lower extremity, from which we may infer that the original automatic power of the arm (excito-motor power) is less than that of the leg. Hence, if only a certain influence passes to the spinal system from the encephalon, the leg will be more affected than the arm; that is to say, in other words, volition will be more marked in the lower than in the upper extremity in recovery. Another circumstance must be taken into account in considering the phenomena of recovery from a clot—viz. that as the nervous centres are everywhere continuous, and that each part is readily affected by injury to those adjacent; so any given injury to the encephalon will react most on that part of the spine which is nearest, *cæteris paribus*.

The twelve cases noticed by Andral may appear to negative this view; but it remains to be proved by further observation whether these cases were really genuine cases of hemiplegia from cerebral hæmorrhage, or whether they may not be more correctly attributed to spinal affection. Two cases have lately come under Dr. Gull's notice, in both of which, on careful examination, the spine was found to be implicated. One of these is an out-patient; the other is at present in No. 3, Charity ward. In the latter case it appears doubtful whether any cerebral hæmorrhage took place at all, and whether the cerebral symptoms may not be referred to increased vascularity alone.

4thly. The *involuntary raising* of the *arm* during the act of *yawning*. This fact is mentioned by Carpenter, but no attempt is made to offer any explanation. Here also I may state an explanation proposed by Dr. Gull:—"This may be explained by the fact that injury to any of the fibres going from the corpus striatum or thalamus opticus to the convolutions, diminishes the power over the extremities. Thus,



if the line of continuity from A to B be interrupted, no force can pass from A to B; but if the force originates in B, it may pass on to C below it. Now, if we let A represent the cerebral hemispheres, and B the medulla oblongata, C the brachial plexus, the explanation is tolerably clear.

5thly. *Irregularity of pupil.*—The third nerve arising above the bifurcation ought to be affected on the same side; and so it was in this case: the left pupil was considerably larger than the right.

6thly, and lastly, the *state of the tongue.*—This I have not seen noticed in any book: it is frequently connected with local irritation on one or other side of the mouth, such as cynanche tonsillaris or diseased teeth; but there was nothing of the kind to account for it here. Might it not arise from the want of motion on that side of the tongue; so that, being less subject to friction than the sound side, the mucus, &c., collects upon it, and remains there while the other side is less free? In this case it varied from time to time, being occasionally absent, but most frequently it was well marked.

As regards the employment of electricity this appeared to be a favourable case. The patient had completely passed the dangerous period of reaction, and was perfectly free from all appearance of fever, and accordingly he was electrified three times during the week. Some progress was made, and it then occurred to Dr. Bird that a continuous feeble current might prove more beneficial, and he determined to try the plates. To my mind the result was most satisfactory for the time; and I think that greater progress was made during the few days that the apparatus was applied, than at any previous or subsequent period. We were not, however, prepared to see a large slough separate from the sore to which the zinc had been placed; and when the slough had separated, the use of the plates was discontinued. Some practical results, however, were further to be obtained from its application, and to these I will briefly allude.

1st. Seeing that a large suppurating surface was exposed, with comparatively little pain, Dr. Bird determined, to employ it as a moxa; and, from its action, he named it the "Electric Moxa."* Following out this idea, it was used in several cases in this hospital, with unvaried success. In the case of a little girl, who was admitted into Miriam ward, with commencing degeneration of the apex of the left lung, the effect was produced without the slightest complaint of pain. I am sorry to find, however, that this freedom from pain is not an invariable accompaniment. Dr. Gull used it in a case in private, and the patient said he had never suffered such torment: but there appears to have been a reason for this—the disease under which the patient laboured was spinal; and this system was in an extreme state of sensibility,—this, in some measure, if not wholly, accounts for it. There is, however, as a general rule, more pain, with some spasm of the muscles, when the current from the plates passes in the direction of the ramifications of a *spinal* nerve; and this pain appears to recur chiefly at night—of course, if the contact is destroyed, the pain and spasm cease. If applied on the chest, the plates should be placed as much below the dress as possible; the cicatrix (so far as I have seen) has a very uneven surface, and in case of recovery, some of our fair friends might feel inclined, and with great propriety, to disagree with their medical attendant, for leaving them so marked a legacy.

The plates were subsequently tried in a case of dropped hands, the zinc plate being placed over the extensor muscles: it produced a slough, but I do not think that the paralysis was lessened.

On observing that the blister upon which the negative plate was placed healed so rapidly, Dr. Bird suggested its application to old indolent ulcers, and, accordingly, when I became dresser for Mr. Bransby Cooper, it was several times put to the test, and with varied results, but on the whole, satisfactory. The cases in which it seemed to produce an extraordinary effect were those of tertiary sores; one of these cases had previously resisted all kinds of treatment. It is in these cases,

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* Lectures on the Therapeutical Application of Electricity, delivered at the Royal College of Physicians, May 1847; in MEDICAL GAZETTE, vol. iv. New Series, page 981.

I imagine, that it acts as an alterative, setting up a fresh action. It was also tried in a case in Stephen ward: here the character of the ulcer was very much altered: it assumed a remarkably congested appearance, and the discharge became sanguinolent: yet even in this case, (in my opinion), the most unfavourable that I witnessed, the size of the ulcer diminished, and cicatrization commenced at the lower part.

Seeing that the formation of the slough depended on the action of the chloride of zinc, and knowing how exquisitely painful the common application of this remedy proves, I suggested to Mr. Cooper that its application might be successful in destroying small scirrhous masses, where from various circumstances the surgeon does not feel justified in using the knife; this was put to the test in a case of open scirrhous breast in Dorcas ward; in this case there was a large, deep, irregularly excavated sore, with hardened base, and often excessively tender. After the slough had separated, the negative plate was applied, and in some points cicatrization commenced—the great tenderness was much relieved. From the great irregularity of the surface of the sore, it was difficult to apply it very effectually, yet the hardness at the base of the sore was materially lessened.

I may state here that in subsequent trials, it was found, that in forming a slough, one blister, placed where the slough was to be formed, in general proved sufficient, providing the surface of the skin to which the silver plate was applied were previously bathed with a little salt and water, so as to make it a good conductor.

CHLOROFORM IN THE UNITED STATES.

The anæsthetic excitement which prevailed a short time since, has rapidly subsided, as we anticipated it would. The occurrence of fatal consequences in several instances in which ether and chloroform were administered, particularly the latter, has cast a dark shade over the use of these agents. The danger now is, that we shall run into the opposite extreme, and instead of having recourse to these remedies for pain in trifling cases, decline to employ them in those in which they may be most necessary and proper.—*Phil. Med. Exam.* May, 1848.

MEDICAL GAZETTE.

FRIDAY, JULY 7, 1848.

Although there remains nothing more to be said on the subject of the "Eclair" and the Boa Vista fever, yet the late report of Dr. King brings to light a scandalous piece of neglect in relation to the sanitary condition of Government steam-vessels. It was reasonable to suppose that a vessel in which there had been such a large amount of mortality, would either have been abandoned altogether, or at any rate, in these days, when "disinfectants" abound, so cleansed and purified that no risk would have been incurred by refitting her for service. Dr. King's report, however, clearly shews that the authorities allowed matters to take their course; and, but for the fact that the local origin of fever apparently received some support from the admission, the public would probably have heard nothing of the mode in which pest-ships are dealt with.

In the first place, the name was changed, and, in November, 1846, the Eclair was commissioned at Woolwich as the "Rosamond." The vessel was ordered to the Cape; but it is rather significant of her suspected condition, that not one of the former crew would rejoin her. We shall now allow Dr. King to state the facts:—

"During the time of fitting out, four cases of typhus fever occurred, and were sent to the hospital, where two of them died; but it is necessary to mention that typhus was prevalent at Woolwich at the time. The steamer left England, for the Cape, on the 23d of February, 1847. Three days after sailing, one of the men was affected with slight febrile symptoms, and he continued more or less indisposed for a number of days, but occasionally felt so well that he returned to his work.

After the ship entered the tropics, however, the disease began to assume a new and alarming character; and when off the island of St. Nicholas, and almost in sight of Boa Vista, the man died, having had, for two days previous, black vomit and other characteristic symptoms of the yellow fever. Within a few days afterwards the "Rosamond" arrived at Ascension, where I was then stationed; and Commander Foot having communicated to Captain Hutton, the superintendent of the island, every particular respecting the illness and death of the seaman, I was ordered, with Dr. Sloan, the surgeon of the hospital, to make a report on the case, and, at the same time, to suggest measures for the benefit of the ship, without endangering the health of the people on the island. Having obtained from Dr. Slight, surgeon of the "Rosamond," every information relative to his late patient, we stated our opinion that the disease the man died from was sporadic yellow fever; and as the weather was then extremely sultry, and the hottest month in the year (April) approaching, and the hospital being full of patients, we recommended that the necessary supplies should be furnished without delay, and the ship hastened on to her destination, the Cape of Good Hope.

"On the following morning I went on board, with the view of learning something to enable me to form an opinion as to the sanitary condition of the ship, and for the purpose also of inspecting the sick, as the surgeon informed me he had then a suspicious case, with symptoms of a low kind of fever. I had barely time to take a cursory view of the after parts of the ship, when my attention was called to the patients, who were all mustered in the steerage; and I found the man the doctor had alluded to in such a state that I recommended him to be sent on shore immediately. The only other severe case was that of a supernumerary lad, who was taken ill the same morning, but the indications of a low malignant fever were so apparent even at that early stage as to induce me to express my opinion to the surgeon that he would not probably survive twenty-four hours. As it was most desirable to prevent a panic amongst the ship's company, I went on shore to consult with Captain Hutton, and make arrangements for their reception. The point was settled very soon: I was to take them, and two other lads who slept in the same part of the ship (and who were found to have incipient fever), to the sick quarters on the Green Mountain. The arrangement was quite agreeable to my wishes as I was most anxious to avoid the risk of again complicating an important question, which has been already sufficiently mystified; viz., the contagious or non-contagious nature of the disease. Before we had half accomplished our short journey to the Green Mountain, the poor boy became delirious, and, without having had one favourable symptom from the commencement of the attack, he died at the sick quarters, after an illness of thirty-six hours. Had we made a post-mortem examination, I have no doubt that the matter of black vomit would have been found in the stomach or intestines; but unfortunately the assistant-surgeon, Dr. Andrews, had forgotten his instruments in the hurry of leaving the garrison. The body, however, soon after death, assumed a dark and motley appearance, especially the abdomen, buttocks, and the lower extremities. The other three patients recovered slowly, but were at length cured, and discharged to Her Majesty's ship 'Tortoise.' None of the marines who attended them as nurses, nor the assistant-surgeon, caught the fever; nor was it communicated to any one in the island.

"The patients themselves attributed their illness to foul air in the fore part of the ship; one of them said he suffered so much from an abominable stench in the boatswain's storeroom that he represented the circumstance, and obtained permission to cut a hole in the floor, which exposed to view *a considerable quantity of soft mud; and five or six buckets full of it, mixed with decayed shavings, and emitting an offensive odour, were removed at the time.*

"It appears, then, that besides an unusual number sleeping in the fore-cockpit, some of them at least had been exposed to a morbific miasma *exhaled from a festering mass of filth in the bottom of that part of the ship.* The quantity of mud, no doubt, was small in comparison with what had accumulated when the vessel arrived at Spithead from the coast of Africa; yet the malaria eliminated from that small and circumscribed focus was equally virulent in its operation, and produced the same disease in a few who were placed within the sphere of its influence."

The inquiry naturally suggests itself, why a crew, thrown off their guard by the alteration in the name of this ship, were allowed to embark, and live in the midst of a "festering mass of filth."

We quite agree with the Government reporter that a ship which is sickly may be pronounced to be clean, from a loose and careless examination of the hold; and we cannot help thinking that the cleansing, if it had here taken place at all, had been carried out in a most imperfect manner. It is otherwise impossible to suppose, that, only three days after sailing, one of the crew should have been attacked with febrile symptoms; and that, when the ship reached the latitude of the Cape de Verd islands, the disease assumed the alarming characters of yellow fever, and the man died. Four other cases occurred, one of which proved fatal; and some management was required, in order to prevent a panic amongst the crew. These facts are quite inconsistent with the idea that the ship was in a proper condition for a voyage when she left this country; for among the many hundreds of vessels sailing through the same latitudes, we do not find the same alarming and fatal attacks of the so-called sporadic yellow fever, although the vessels and the crews are exposed to similar atmospheric and marine influences. The subject may not have attracted the attention of Government; but it appears to us that the sanitary condition of our ships should be as much an object of superintendence and care, as that of the streets and alleys of our populous cities. This is especially necessary in steamships, in which from the high temperature that always prevails, the causes most favourable to decomposition are constantly in action.[*] We care little about "disinfectants," as they are absurdly called. They can be of no possible service where cleanliness is not observed, or where a ship is so badly constructed, that her hold becomes foul, and a source of morbific miasmata in the course of a few weeks' voyage on the open Atlantic. We therefore advise sanitary reformers, so soon as the Public Health Bill has received the royal assent, to direct their attention to the state of our navy. The revelations made in Dr. King's report, show that hygiène is not sufficiently attended to in this department; and that our Government ships may in consequence either be the means of engendering, or of importing, a most malignant and intractable disease.

Reviews.

Practical Observations on Midwifery, and the Diseases incident to the Puerperal State. By A. H. M'CLINTOCK, M.D., and SAMUEL HARDY, M.D., Ex-assistants of the Dublin Lying-in Hospital. 8vo. pp. 368. Hodges and Smith, Dublin. 1848.

THIS volume may be regarded as a valuable compendium of practical midwifery. It consists of a series of clinical and statistical reports, drawn up by the authors from the cases which presented themselves at the Dublin Lying-in Hospital during the three years that they were connected with that institution. We have therefore in it the results of a large share of experience in clinical midwifery, in a form convenient for reference. The subjects are treated by the authors in the following order:— *Natural Labour, Tedious and Difficult Labours, Preternatural Labours, Complex Labours, Convulsions,*

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[*] The temperature of the hold of a Government steam vessel on the West India station, has been known to be as high as 154° F.!

Rupture of the Uterus, Funis Presentations, Ophthalmia Neonatorum, and the *Management of Still-born Children.* The whole of these subjects are illustrated by numerous cases, in which the plan of treatment pursued and the autopsy, when the case was fatal, are given; and to each section are appended some judicious practical remarks. In order that our readers may judge of the character of the work, we shall proceed to make a few extracts; and first, in reference to *Puerperal Insanity*. After detailing the particulars of a case in which the attack was very sudden, the authors observe:—

"In the majority of cases, however, it does not come on in this abrupt way, but is preceded for a few days by certain symptoms, which the watchful practitioner will scarcely fail to observe and to profit by. The most common of these premonitory symptoms are a disposition to find fault or quarrel with her nurse, loss of sleep, and quickness of pulse. On other occasions suspicion will be first excited by some deviation in the patient's manner or language from what is usual or natural to her; thus she will be peevish or fretful, or sullen and discontented. When, from the concurrence of two or more of these, an attack of mania is apprehended, orders should be immediately given to keep the patient as quiet and undisturbed as possible; and further, it is necessary to have her closely and unremittingly watched by a vigilant attendant, as well to prevent her doing harm to the infant as to herself. This disposition to injure themselves or their offspring is a striking feature in puerperal insanity, and one which it is most important to bear in mind throughout the entire treatment. After a patient has become decidedly maniacal, she will often prove refractory, and obstinately refuse taking her medicine or submitting to rule, and the contest will be whether she or the doctor is to have the ascendancy. Under these circumstances it is requisite for the physician to exercise much tact and resolution in his language and conduct towards the patient. If he does not succeed in enforcing his directions by mild expostulation, he must show himself to be determined, and, without harshness, insist on his orders being obeyed; for if, through vacillation or want of resolution, he now fail to establish his authority, he will lose all control or restraint over the patient; whereas, on the other hand, if he carry his point, and bring her into compliance, it will have a lasting effect, and she will probably stand in awe of him during the remainder of her illness.

"A striking example of this occurred in the Hospital. A patient in a ward with five others became maniacal, and at the same time so violent, that it was thought necessary to separate her from the rest, and to put her into a room by herself. When they came to remove her, however, she appeared resolved not to go, and maintained her position with such strength and obstinacy, as to set at defiance all the efforts of the nurse to effect her transportation. In this dilemma Dr. Hardy (being the assistant on duty) was sent for, and, seeing how the matter was, quietly lifted the patient up in his arms, and carried her bodily into the ward appropriated for her reception. From being extremely boisterous and unmanageable, she immediately calmed down into a state of perfect submission, and seemed as it were quite awe-stricken by the unexpected suddenness of the act. She did not again give any trouble. Until she was quite recovered, the presence of Dr. H. always put her into a state of trepidation and alarm, and any command of his she promptly and implicitly obeyed"—(pp. 67-68).

The authors refer to a fact of some practical interest connected with this disorder, namely, that abdominal inflammation sometimes alternates with the alienation of reason, and this at a period after delivery when a patient is usually considered free from the liability to such attacks. An instance is quoted in which a female some days after delivery became maniacal, and in this state continued for a week, when she regained the possession of her intellect; but to this immediately succeeded violent peritonitis, which carried her off (p. 71.) This should be taken into consideration in forming a prognosis.

On the use of the *Ergot* in tedious labours the following observations are made:—

"When the ergot acts at all, we have usually remarked that it does so within fifteen minutes from the time of its administration. If a bad description of ergot be used, it may naturally be expected that it will produce little or no effect. This, we believe, is the most common cause of its failure; but there is another, not generally known or recognised, namely, where it is given at a very advanced period of a difficult labour, when the pains have nearly entirely ceased, and the vaginal discharge has become fetid and olive-coloured. Under these circumstances the drug rarely exerts any influence in bringing about a return of the pains; in fact it would seem as if the muscular irritability of the uterus had been com-

> pletely exhausted. It by no means follows as a consequence that the ergot will not act on the child because it does not act on the uterus, for we have seen numerous instances where the child was unquestionably affected by it, although the uterus was wholly unaffected, or nearly so. We have on many occasions observed the ergot of rye to exercise a very depressing influence upon the maternal circulation, lowering the rapidity of the pulse ten or twenty beats per minute. In some few instances this effect lasted for two or three days"—(pp. 83-84).

The ergot was employed in the Institution in the form of infusion. Half a drachm of the fresh powder was infused in half a small cupful of boiling water for ten or fifteen minutes, when it was strained. To the infusion ten or fifteen grains more of the powder were added, with some sugar to make it palatable. This constituted the ordinary dose, and it was repeated in about twenty-five minutes if thought requisite: a third dose was seldom given. We learn from another part of the work, that the ergot was found to be a valuable remedy in the treatment of secondary hæmorrhage. It was usually given in six-grain doses three times a day; but where the discharge had been profuse, fifteen or twenty grains were administered at once (p. 235.) The results were very satisfactory. This bears out the view taken by Mr. C. A. Aikin, of the utility of this drug in the suppression of hæmorrhage.*

The authors concur with Dr. Beatty, in the opinion that dangerous effects may be produced by ergot on the child, and they consider its safe administration in tedious labours, to be restricted to those "cases of arrest," in which delivery may be effected at any time by the vectis or forceps, should the resort to instruments become necessary, in order to save the child.

> "It is with extreme reluctance, and only when impelled by unavoidable necessity, that the *secale* is ever given here in any other cases than these; for, independent of considerations towards the mother's safety, experience has amply proved that the child will undoubtedly perish unless delivery be accomplished within a limited time after having exhibited the ergot, and therefore it is an important desideratum that the use of the forceps be feasible before resorting to the administration of this remedy. Thus, to use the words of Dr. Johnson, 'when ergot is given it brings matters to a crisis; for if the child be not delivered within a certain time, it will, in all probability, be destroyed.' The period during which it is safe to wait, and beyond which delay cannot be permitted with impunity to the life of the fœtus, varies in every case, and can only be known by carefully observing with the stethoscope, the changes that take place in the fœtal cardiac sounds. As long as they remain unaffected there is no necessity for hastening the delivery; but if they become diminished in frequency, and depressed in strength, and if at the same time there should be any irregularity or intermission in the beats, then no time is to be lost in terminating the labour, as the delay of a few minutes, under these circumstances, will decide the child's fate. Dr. Beatty states, that 'he is inclined to place two hours as the limit of safety, and to consider a prolongation of labour beyond that period as perilous to the infant.' Dr. Hardy, in his paper on the effects of ergot, writes, 'that to this rule' (of Dr. Beatty's) 'he has met with but three exceptions. It by no means follows from this,' he continues, 'that a period of two hours should elapse from the exhibition of ergot until the expulsion of the child. In two instances the children were lost, although only twenty minutes in one, and twenty-five in the other, had passed from the administration of the ergot to their expulsion'"—(pp. 79-80).

Out of 259 tedious and difficult labours, 173 females were delivered without any instrumental assistance. Of this number, it appears 30 had ergot administered to them, to overcome inertia in the second stage of labour; and only *ten* out of the *thirty* children were born alive. "This," observe the authors, "furnishes strong proof, were any such required, of the deleterious influence of ergot upon the fœtus, as in nearly every one of the above instances there was unequivocal evidence of the child's vitality when the ergot was given, and in the great majority of them delivery took place within two or three hours after the administration of the medicine." (p. 95.)

In reference to the treatment of hæmorrhage before delivery, the authors dissent from the new views which have been recently promulgated on this subject.

> "The operation of turning should not be performed until the mouth of the womb be so far dilated, or in such a condition as to offer no material resistance to the passage of

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* See MEDICAL GAZETTE, March 31, 1848, p. 582.

the hand. The best practitioners are unanimous in condemning all attempts at rudely forcing the hand through the uterine orifice, as the very worst results are to be apprehended from such a proceeding,—one which is in any case dangerous, but in these of placenta prævia, peculiarly so. 'It is seldom safe,' writes Dr. Lee, 'to attempt to deliver by turning before the os uteri is so far dilated that you can easily introduce the points of the four fingers and thumb within it: however soft and relaxed it may be, until dilatation has commenced and proceeded so far, I am convinced there are very few cases in which the operation of turning will be required, or completed without the risk of inflicting some injury on the os uteri. This is a point of the greatest practical importance, but I do not know in what manner to communicate to you, in words, a more clear and definite idea of the grounds upon which you ought to proceed' "—(pp. 197-198).

"Of the plan lately recommended by Drs. Simpson and Radford, for extracting the placenta before the child in certain cases of hæmorrhage, we cannot speak from experience; and the mere expression of our opinion upon its merits would not carry much weight. Dr. Johnson entertains very strong objections to the practice, not only because it necessarily destroys the child, but also from a conviction of its inapplicability to cases of rigid os uteri, which is the chief or almost only obstacle to the performance of turning in placenta prævia cases. Without entering into any analytical examination of the ingenious arguments brought forward by Dr. Simpson in support of this novel mode of treatment, we would venture to make a few casual remarks upon one or two of his positions. In the first place, as regards the source of the hæmorrhage, he writes: 'I know of no reason, anatomical or otherwise, for alleging that the open placental orifices do not bleed; and on the contrary, I believe with Dr. Hamilton and others, that the discharge issues principally or entirely from the vascular openings which exist on the exposed placental surface;' and again he observes: 'in proportion as we approach nearer and nearer a total separation of the placenta, the number of its different utero-placental vessels are diminished, till at last we find, that when the one organ is once completely separated from the other, the flooding is instantly moderated or entirely arrested.' Now if this doctrine were correct, the conclusion might legitimately be drawn, that hæmorrhage after the birth of the child and expulsion of the placenta *ought* to be an exceedingly rare occurrence: but unfortunately such is not the case, as every one knows. We do not at all deny the possibility of hæmorrhagic discharge taking place from the detached portion of a partially separated placenta, for there is no physiological reason why this should not happen; but we cannot persuade ourselves that the great amount of the hæmorrhage does not proceed from the uterine vascular orifices"—(pp. 198-199).

Drs. M'Clintock and Hardy object to the tables of mortality drawn up by Dr. Simpson, because they compare cases which do not admit of a fair comparison.

"Lastly, we must, with a very recent writer, express our surprise that Dr. Simpson should, in his tables of mortality, have included cases of the spontaneous separation and expulsion of the placenta, with those cases where artificial separation had been resorted to; the former being examples of an entirely natural process, carrying along with them self-evident proof that *most energetic and powerful uterine action* must have been present, which satisfactorily explains why the hæmorrhage ceased upon the expulsion of the placenta"—(p. 200).

Our space will not allow us to go further into an analysis of this work, and we shall close our notice by an extract from the first page. We are there informed, that the report extends from 1842 to 1845, and during this period 6634 women were delivered in the Institution, and gave birth to 6702 children. The primiparæ amounted to 2125, being nearly one third of the whole number. The total deaths were 65, giving an average mortality of 1 in 102 cases; and 35 of these deaths were amongst the primiparæ. Of the children there were—

Males 3551: of whom { 198 were born dead, and 62 putrid.

Females 3151: of whom { 127 were born dead, and 80 putrid.

These facts corroborate the common opinion, that a greater number of male children are lost during labour than of female children; while the greater number of those which die in utero are females.

We quote this statistical summary, in order that our readers may perceive that the authors have had an ample field for collecting their practical observations. That they have made good use of the opportunity thus afforded them, is manifest from the work now before us. We recommend it as a valuable addition to our obstetric litenature. It has this advantage over systematic treatises, that we can watch the progress of treatment, and are able to form a judgment of the inferences drawn by the authors. To all who are engaged in the practice of midwifery, it will prove an excellent guide.

On the Nature and Treatment of Stomach and Renal Diseases. By WILLIAM PROUT, M.D. F.R.S., Fellow of the Royal College of Physicians, &c. The fifth edition revised, pp. 585. London: Churchill, 1848.

AFTER an interval of nearly five years, we have to announce the appearance of a fifth edition of this excellent treatise, on the chemical pathology of a most important class of diseases. The favourable reception which it has met with in the profession, is a satisfactory proof of the value attached to the author's labours by men engaged in practice, for it is to them that this work is chiefly addressed. The fact that the treatise has reached its fifth edition also proves that English chemistry has not been quite swept away in the flood of German hypotheses with which we have been of late overwhelmed, in relation to diseases of the urinary organs. The fact is, as the author pithily observes in his preface, "before the truth can be known, chemists must *work* more, and *speculate* less." At present the plan is to speculate first, and work afterwards. There is no objection to this, provided we do not become so wedded to our speculations, as to mistake them for facts. The contests into which Liebig has been drawn with Mulder, Laurent, Gerhardt, and others, has laid bare some strange secrets regarding the manufacture of chemical formulæ, and the mode in which figures and symbols are shifted and transposed in order to suit particular views. The struggles of the Edinburgh and Quarterly Reviews, (we mean our non-medical contemporaries), to maintain in their full ascendancy the new chemical doctrines, have ended in failure. Men may be dazzled by what is beautiful, but they will insist upon looking below the surface; and in matters of science they will in the end only yield their judgment to that which is demonstrable. We do not agree with Dr. Prout in thinking that formulæ, when properly employed, are to be regarded as clumsy and unphilosophical expedients; but we think he is quite justified in saying that few of them represent the true constitution of *organised* substances: and it is in our view questionable, whether chemical science has not lost more than it has gained by the very free introduction of *empirical* formulæ.

To give an analysis of the contents of a book which has been so long before the profession as that before us, would be a work of supererogation. Dr. Prout's treatise has for some years deservedly found a place among those which are referred to and consulted as works of authority. The present edition appears to have been most carefully revised, and its value is increased by the addition of many well-executed illustrations, some of which, as the author duly acknowledges, have been derived from the researches of Dr. Golding Bird. We can recommend this volume to all who are engaged in practice. It will be found a most useful guide in cases requiring a careful diagnosis.

Correspondence.

ON CANCER OF THE LIP.

SIR,—Your report, in the last number of the GAZETTE (June 23), of Mr. Bransby Cooper's Lecture on Regional Surgery, has, in reference to cancer of the lip, these words:—

"Sir Astley Cooper states that he had seen upwards of two hundred cases, in only one of which the upper lip was the seat of the disease." And again, "It generally attacks men after the middle age, females being seldom the subjects of the complaint. I have, indeed, never seen a case in a female."

Now, a surgeon of Sir Astley's extensive experience having seen only *one* case of cancer in the *upper* lip; and so excellent a practical surgeon as Mr. Bransby Cooper having *never* seen a case of cancer of the lip in the *female*, it must be inferred that such cases are of extremely rare occurrence.

I cannot, therefore, but deem it a singular coincidence, that a case of each kind fell to my lot, on the same day, about three weeks since. Two old women, very near neighbours, came from a very considerable distance out of Wales, and presented themselves at our Infirmary. One of them, 76, with cancer in the *upper*, and the other, 80 years of age, with cancer in the *lower* lip. I operated upon both on the same day. Both cases did well, and both went home together. They were both well-marked cases of cancer, of some standing. The one in the upper lip encroached on the right nostril; and, as it occupied some extent of the substance of the lip, it was necessary to remove it by the V-shaped incision. The lower, having occupied only a superficial extent of the border of the lip, was removed by the horizontal incision.

Should you deem the above cases worthy, from their singularity, of a place in your next number, you will perhaps give insertion to this brief notice of them.—I am, sir,

Yours very respectfully,
JOHN DICKIN.

Shrewsbury, June 28, 1848.

Medical Intelligence.

THE PROFESSORSHIP OF CLINICAL SURGERY IN EDINBURGH.

PROFESSOR SYME has been allowed by the Crown to withdraw his resignation of the Chair of Clinical Surgery in the University of Edinburgh, and he will accordingly resume his duties in that seminary next session.

RESIGNATION OF MEDICAL OFFICERS AT THE YARMOUTH HOSPITAL.

AT the Yarmouth Hospital the Governors have taken upon themselves to appoint a consulting-surgeon. A vacancy having occurred by the death of the late holder of the office, a meeting was held on the 28th June to make the appointment. It was protested against by the medical men, as creating an invidious distinction; and it was contended by them that it ought only to be given as a compliment when one of the old surgeons, from age or a wish to retire from active practice, resigned his appointment; but the meeting thought otherwise, and refused to listen to the remonstrances of the medical staff. They have appointed as consulting-surgeon a personal friend of one of the leading members of the committee. The whole of the medical men attached to the hospital then tendered their resignations, in which they were supported by all the respectable practitioners of the town. A most unfair prejudice was raised against the staff, by stating that they wished to rule the institution. If medical men will now act consistently, there is an opportunity of showing to the Governors that, in the management of an hospital, the medical officers have a right to be treated with courtesy, and some weight given to their opinions.*

THE WOUNDED IN PARIS.

THE number of wounded admitted into the civil hospitals of Paris during the 23d, 24th, 25th, 26th, 27th, and 28th ult., amounted to 1,619, namely, 773 civilians, 813 military, and 33 women. The dead carried to these hospitals during the same interval, were 162 in number, namely, 127 civilians, 33 military, and 2 women. 195 died in the hospitals within the same period, namely, 115 civilians, 77 military, and 3 women.

ACTION FOR THE ILLEGAL PRACTICE OF MEDICINE IN CANADA.

The College of Physicians and Surgeons of Lower Canada v. *Silas Gregory.*

THIS was an action professing to be based upon the 10th and 11th Vict. c. 26, to recover a penalty of ten pounds from the defendant, for having, as the information alleged, practised physic on two several occasions. Mr. Johnson, Q.C., appeared for the defendant, and demurred to the information on the following grounds:—

The section imposing a penalty is worded as follows:—"And be it enacted," &c. &c. "that no person shall practise physic or surgery in Lower Canada, unless he be a person duly licensed so to practise, under a penalty of five pounds currency for each day on which any person shall so practise; and such penalty shall be recoverable, on the oath of any two credible witnesses, before any Justice of the Peace," &c.

These words do three things—first, they create an offence; secondly, they enact a penalty for its commission; and thirdly, they create a jurisdiction to enforce that penalty. A penalty created in such a general way may be admitted to be recoverable by the Crown, but not at the suit of the present plaintiffs, to whom no authority to sue *qui tam*, or in any other way, is given by the statute. The prayer of the information is, that "the defendant be adjudged to have forfeited ten pounds to Her Majesty, and that he be condemned to pay the same to Her Majesty, her heirs and successors," &c. &c. This prayer, of course, could not be granted except at the suit of the Crown, which is not made a party to the action! The present suit, therefore, by the "College of Physicians and Surgeons," demands nothing which they have any right to demand for themselves, but something alleged to be due to the Crown, which does not demand it.

The case was taken *en deliberé* by Mr. Amiot, before whom it was tried, and, on the 12th inst., he gave judgment, dismissing it.—*Brit. Amer. Journal*, June.

MONTREAL GENERAL HOSPITAL.

THE late Chief Justice Reid, one of the warmest and oldest friends of this institution, bequeathed a large sum of money, sufficient for the building of another wing to the hospital, to be erected after the decease of his widow. This lady, largely partaking of the liberality which prompted the act of her lamented husband, has determined upon its immediate erection, and has already ordered the necessary preparatory excavation. This additional structure will in all probability be completed this summer, and will be designated the "Reid wing," as the other has been the "Richardson wing." This valuable institution, one of the finest hospitals on this continent, has been singularly favoured within the last few years. The late Dr. Skakel bequeathed a valuable property to it, in reversion, estimated at about £3000 in value.—*British American Journal.*

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* Communicated by a correspondent, who has forwarded his name.

THE INCORPORATED SCHOOL OF MEDICINE, QUEBEC.

The circular of this school announces that the Marine Hospital contains 250 beds; that during the season about 1500 cases are admitted, of which from 400 to 500 are of the most instructive and important surgical kind. During the summer of 1846, there were admitted 72 cases of fractures, among which were—fracture of the thigh, 10; of the *leg*. 16; of the pelvis, 2; of the skull, 13; and of other minor descriptions, 31. The operations performed during that season were those of amputation, lithotomy, hernia, trephine, ligatures of arteries, removal of head of the humerus, and of various tumors, &c. Besides which, clinical instruction is given, and access afforded to a library of the best standard works.

As far as this province is now concerned, students of medicine have no lack of means of professional information, and they ought not to slight them. We earnestly call their attention, as well as that of medical men generally, having the control of their studies, to the *facilities* afforded in our sister city; and we do not think we exaggerate in the least in stating, that between the schools of Montreal and Quebec, a means is afforded to students of acquiring a practical knowledge of their profession, both medical and surgical, which is unequalled on this continent, bidding fair for successful competition with those of any of the most favoured cities of the American Union.—*British American Journal.*

A NEW SYSTEM OF PRACTICE.

The *St. Louis Medical and Surgical Journal* for November states, that in Arkansas there is a man who practises medicine on a system which he calls the *te-to-tum* system. He uses an instrument having eight sides, similar to the toy of the same name used by children. On each side of the octagon is a letter of the alphabet, corresponding with a precise indication; *e. g.* V for vomit, G for glister, P for purge, C for calomel, and so on. When called to see a patient, the sage takes his instrument, and, without examining pulse or tongue, or asking a question, spins it before the patient, and administers according to its revelations. His success is great, and his reputation unbounded; so much so, as to throw into the shade Thompsonianism, Homœopathy, Hydropathy, and the Urinoscopists. What the next humbug may be, time will tell.—*British American Journal.*

APOTHECARIES' HALL.

Names of Gentlemen who passed their examination in the science and practice of medicine, and received certificates to practise, on Thursday, 29th June, 1848:—Augustus Robert Henry Padmore, Pilton, near Barnstaple—Thomas Rhys, Penlline, Glamorganshire—Samuel Nathaniel Squire, Pakefield, Suffolk—Eade Sewell, St. Oakely Hall, Essex—Alfred Drew Dunstan, Wadebridge, Cornwall—James Kingdon Luke, Week St. Mary, Cornwall—John Lacy Lyle, Launceston — Hugh Cuolahan — Blackall Mansack, Barnstaple, Devon.

THE USE OF NITRATE OF ATROPIA FOR PRODUCING DILATATION OF THE PUPIL.

Dr. Jacob remarks that, for application to the conjunctiva, the solution of atropia, or some of its salts, is much more effective and convenient than any extract or tincture of belladonna. He has found that a single drop of a solution, made by dissolving two grains of nitrate of atropia in an ounce of water, dilated the pupil as perfectly, if not more perfectly, than the best extract of belladonna. It produced less pain and irritation, and was not attended with the inconvenience of leaving a string of green coagulum between the lids.—*Dublin Medical Press.*

FATAL EFFECTS OF CHLOROFORM.

A fatal case of the use of chloroform occurred in Cincinnati, Ohio. A Mrs. Simmons inhaled the vapour before an operation on her teeth. Death occurred within five minutes. The patient was put, in accordance with Dr. Simpson's suggestion, as speedily as possible under its influence, to which Mr. Murray, who reports the case in the Boston Journal, refers the fatal issue*.

Dr. Sabin, of Williamstown, Massachusetts, has administered successfully the vapour of chloroform in a case of convulsions in an infant aged five months. The effect was markedly beneficial.—A young man in New Bedford inhaled the chloroform for amusement. Convulsions supervened, lasting 16 hours.—A student of medicine in Baltimore, from the same cause, became insensible, and remained so for an hour and a half.—At the Baltimore Almshouse it was recently given to a patient furiously maniacal: in a minute he was calmed.—*British American Journal.*

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* We shall shortly give a full report of this case.

THE PLEA OF INSANITY.

An individual possessing a healthy moral constitution can *choose* whether he will or will not commit a crime. But it is the leading feature of insane impulse that the power of choice is in abeyance, and the unhappy being commits crime from *necessity*. The Code of the French exhibits a degree of scientific and humane accuracy and comprehensiveness in this matter, which our own legislators would do well to study. It imperatively demands, in order to establish the charge of criminality in any case, that the accused be in possession of a perfect moral constitution; and should he labour under any mental defect or alienation involving the suspension of the *freedom of the will*, and proved to exist at the moment the crime was committed, punishment cannot be inflicted.—*Dublin Quarterly Journal.*

BIRTHS & DEATHS IN THE METROPOLIS

During the week ending Saturday, July 1.

BIRTHS.		DEATHS.		*Av. of 5 Spr.*	
Males....	783	Males....	548	Males....	485
Females..	769	Females..	552	Females..	458
	1552		1100		943

DEATHS IN DIFFERENT DISTRICTS.

WEST—Kensington; Chelsea; St. George, Hanover Square; Westminster; St. Martin in the Fields; St. James... (Pop. 301,326)	165
NORTH—St. Marylebone; St. Pancras; Islington; Hackney ...... (Pop. 366,303)	215
CENTRAL—St. Giles and St. George; Strand; Holborn; Clerkenwell; St. Luke; East London; West London; the City of London ... .(Pop. 374,759)	188
EAST—Shoreditch; Bethnal Green; Whitechapel; St. George in the East; Stepney; Poplar ....(Pop. 393,247)	248
SOUTH—St. Saviour; St. Olave; Bermondsey; St. George, Southwark; Newington; Lambeth; Wandsworth and Clapham; Camberwell; Rotherhithe; Greenwich ....(Pop. 479,469)	284
Total	1100

CAUSES OF DEATH.		Av. of 5 Spr.
ALL CAUSES	1100	943
SPECIFIED CAUSES..............	1096	939
1. *Zymotic* (or Epidemic, Endemic, Contagious) *Diseases* ..	347	176
Sporadic Diseases, viz.—		
2. Dropsy, Cancer, &c. of uncertain seat	53	50
3. Brain, Spinal Marrow, Nerves, and Senses	125	122
4. Lungs and other Organs of Respiration	76	129
5. Heart and Bloodvessels	27	33
6. Stomach, Liver, and other Organs of Digestion	70	62
7. Diseases of the Kidneys, &c...	7	10
8. Childbirth, Diseases of the Uterus, &c.	12	12
9. Rhematism, Diseases of the Bones, Joints, &c.	1	9
10. Skin, Cellular Tissue, &c.......	2	1
11. Old Age	34	55
12. Violence, Privation, Cold, and Intemperance	92	29

The following is a selection of the numbers of Deaths from the most important special causes:

Small-pox	28	Paralysis........	22
Measles	23	Convulsion......	38
Scarlatina	86	Bronchitis	21
Hooping-cough..	37	Pneumonia......	26
Diarrhœa	42	Phthisis	129
Cholera	3	Dis. of Lungs, &c.	11
Typhus	73	Teething........	8
Dropsy..........	15	Dis. Stomach, &c.	8
Sudden deaths ..	12	Dis. of Liver, &c.	14
Hydrocephalus..	24	Childbirth	5
Apoplexy........	20	Dis. of Uterus, &c.	7

REMARKS.—The total number of deaths was 157 above the weekly average. This is a very sudden increase of mortality. Scarlatina appears to be specially fatal, the deaths being nearly quadruple of the average.

METEOROLOGICAL SUMMARY.

Mean Height of Barometer				29·64
" " Thermometer^a				57·4
Self-registering do.^{b}	max.	87·6	min.	33·
" in the Thames water	—	65·	—	61·8

^{a} From 12 observations daily. ^{b} Sun.

RAIN, in inches, 0·46: sum of the daily observations taken at 9 o'clock.

Meteorological.—The mean temperature of the week was 3·6° below the mean of the month.

BOOKS RECEIVED DURING THE WEEK.

Wood's Practice of Medicine, 2 vols.
Dr. Rigby's Obstetric Memoranda, 2d edition.
Water-Cure Journal, No. 12, July 1848.
Journal of Public Health, July 1848.
Remarks on the Employment of Anæsthetic Agents in Midwifery, by G T. Gream, Medical Officer of Queen Charlotte's Lying-in Hospital.
Ethnological Journal, No. 2, July 1848.
Edinburgh Monthly Journal, July.
Philosophical Magazine, July.
Journal de Pharmacie et de Chimie.
Veterinary Record, July.
The Journal of Psychological Medicine, July.
Edinburgh Medical and Surgical Journal, July.
Ranking's Half-Yearly Abstract of the Medical Sciences, Jan. to June 1848.
Dublin Medical Press, July 5.
British and Foreign Medico-Chirurgical Review, July 1848.
Braithwaite's Retrospect of Medicine. Vol. 17, January to June 1848.
Remarks on Deodorization and Disinfection, and on Dr. Sir Wm. Burnett's Disinfecting Fluid. By T. Stratton, M.D. Royal Navy, Particular Service. Montreal.

NOTICES TO CORRESPONDENTS.

The following communications have been received and will be inserted as early as our space will permit:—Mr Hunt on the Use of Tar in Cutaneous Diseases.—Mr. C. W. Turner on Gastric or Gastro-Enteritic Fever.—On Injuries to the Eye, by Dr. T. O. Ward.

Contributions to Pathology, by Mr. W. Robbs.

Mr. E. Canton's request shall be attended to.

Dr. Simpson's communication on Local Anæsthesia is unavoidably postponed until next week.

RECEIVED.—Philologist.—A Third Year's Man.

Lectures.

LECTURES ON THE DISEASES OF INFANCY AND CHILDHOOD,

Delivered at the Middlesex Hospital.

BY CHARLES WEST, M.D.

Physician-Accoucheur to, and Lecturer on Midwifery at, the Middlesex Hospital, and Senior Physician to the Royal Infirmary for Children.

LECTURE XXXIII.

Diarrhœa — continued. Close resemblance between inflammatory diarrhœa and the dysentery of the adult—local conditions favouring its occurrence, as damp, want of drainage, &c.

Treatment of simple diarrhœa—of diarrhœa in connection with teething — use of astringents.

Treatment of the inflammatory diarrhœa—in its acute stage—treatment of certain symptoms—as the irritability of the stomach—the cerebral symptoms—indication for the use of stimulants—of astringents—management of the chronic stage—use of enemata—diet in this stage.

Management of intertrigo excited by diarrhœa—and of prolapsus ani.

GENTLEMEN, — Those of you who were present at yesterday's lecture, could hardly fail to be struck by the close resemblance which exists between the severer forms of infantile diarrhœa and the true dysentery of the adult. In both cases similar morbid appearances are discovered, occupying the same parts of the intestinal canal; in both the symptoms during life are almost identical, their resemblance being disturbed mainly by the greater excitability of the nervous system in early life: whence it arises that convulsions and other signs of serious cerebral disturbance are often observed in the infant affected with diarrhœa, while they are but seldom noticed in the adult suffering even from severe dysentery. But this difference is one of degree rather than of kind, since the morbid poison, whatever be its nature, to which dysentery is due in the adult, produces under favourable circumstances disorders of the nervous system analogous to those which we may have frequent opportunities of observing in the infant. If dysentery, for instance, break out epidemically in a large prison, the inmates of which have had the excitability of their nervous system increased by the debilitating influence of long confinement, tremors, cramps, spasms, convulsions or stupor, may attend upon the affection, and death may take place under symptoms that betoken disorder of the brain or spinal cord. You will find ample proof of this in Dr. Latham's account of the Disease at the Penitentiary in the year 1823; and in Dr. Baly's Gulstonian Lectures on Dysentery, which are based on observations at the same establishment. Among the striking examples of this complication related by those writers, some are recorded in which, though death took place, neither the brain nor the spinal cord presented any sign of disease. Just of the same kind, and equally independent of any appreciable change of structure, are the nervous symptoms that often come on in the course of infantile diarrhœa. I shall have presently to refer to the important practical bearings of this fact, when we come to consider the treatment of diarrhœa and its complications.

Before we pass to that subject, however, we must inquire whether there are any *special conditions that tend to engender* the severer forms of bowel complaint in childhood, over and above those general causes of diarrhœa to which your attention was directed in the last lecture. I believe that such special conditions do exist—that they abound in the locality where most of my observations have been made—and that they are precisely the same as prevailed far more extensively in this metropolis at the time when the bloody flux annually carried off large numbers of its inhabitants.

In almost every country and climate, and under circumstances in many respects very different, dysentery has been known to occur, but in each instance it has been possible to connect the prevalence of the disease with some source or other of malaria. Although while I was physician to the Finsbury Dispensary, a large amount of disease among children as well as among adults came under my notice, yet my acquaintance with those severer forms of infantile diarrhœa which approach to the characters of dysentery, and which give rise to similar lesions, has been derived almost exclusively from observations made in Lambeth and the adjoining parishes. The children in both districts are alike subjected to the evils of improper and insufficient food, and of close and ill-ventilated dwellings; but in the latter there are superadded certain very important influences of a local character. A considerable portion of the district on the Surrey side of the Thames lies below high-water mark; and the kitchens and cellars of some of the houses near the river become flooded at unusually high tides. The sewerage throughout is very defective; in many parts it is effected entirely by open drains, while in some places there are mere cesspools, which have no communication with any drain whatever. Cases of infantile dysentery do not occur with the same frequency in all parts of this district, but they are most numerous and most severe wherever these noxious influences are most abundant. Proof, too, of the intimate connection that subsists between these conditions and the occurrence of infantile dysentery, is afforded by cases such as the following:—

With the return of every spring, a poor woman brought to me her younger children suffering from diarrhœa, which they seemed to outgrow when about three years old. This diarrhœa was always obstinate, very apt to assume a dysenteric character, and was almost sure to return if medicines were discontinued before the return of the cold season. On one occasion, her infant, aged about fifteen months, who had had diarrhœa severely in the previous autumn, suffered a return of it with the returning warmth of spring. The infant's symptoms were very alarming, and the child had frequent convulsions, on which account I visited her at home. I then found that the infant spent the whole of the day in a back room on the ground floor, which looked out upon a little yard, at the bottom of which there was a large cesspool, whence there came a most offensive smell during the whole of the warm weather. I urged the mother to remove her infant from this room, and to occupy instead a front room on the first floor in the same house, which looked upon the street. When this had been done the convulsions ceased almost at once, and the diarrhœa was not long before it disappeared. I have attended this woman's children since for other affections, but it is now nearly eighteen months that they have occupied the more wholesome room, and during this time I have heard nothing of their suffering from diarrhœa. I may just add, that, under similar circumstances, I have met with a few instances of the sudden and apparently causeless occurrence of convulsions in two or three children of the same family. It is not long since a little girl, five years old, was seized with convulsions, which recurred frequently for between two and three days, leaving her in a state of stupor. By degrees the symptoms of very severe typhoid fever developed themselves out of this disturbance of the nervous system. The disease during the whole of its course presented an adynamic character, and required the free employment of wine and stimulants. While she was convalescent the health of her elder sister, who was eight years old, began to fail, and before long she experienced convulsive attacks of an anomalous character not unlike fits of hysteria, which returned at intervals of two or three days for several weeks together,—three or four fits sometimes occurring in the cours of a single day. These seizures were accompanied with much debility, and they disappeared by degrees under the use of preparations of iron, and a generally tonic plan of treatment.

In studying the *treatment* of diarrhœa and dysentery in early life, we will pass successively in review the different forms of the disease; beginning with the simplest and least dangerous, and passing to the more formidable varieties of the affection, and to those complications which add so greatly to its hazard.

In a large proportion of cases of *simple infantile diarrhœa*, the ailment tends to subside in a day or two, and finally to cease of its own accord. While, therefore, in consideration of the tender years of the patient, no such case can be regarded as altogether trivial, yet in many instances but little medical interference is needed. Great care, however, is required in this, as well as in the more serious forms of diarrhœa, to prevent the affection being aggravated by any error of diet, or even by the infant being allowed to partake too freely of food otherwise suitable for it. If, therefore, the sickness with which the attack sets in have not altogether subsided, the child should be taken completely from the breast for a few hours, and should have nothing more than a few spoonfuls of water or barley-water, till the irritability of the stomach has abated. If the disposition to vomit have completely ceased, it will yet be right to put the infant less frequently to the breast; while it is supplied, if thirsty, with water or barley-water, in small quantities at a time. In children already weaned, a similar plan must be carried out; solid food being for a time withdrawn, and thin arrow-root, or barley-water and milk, in equal parts, being substituted for it. If the attack be clearly traceable to some improper article of food, a dose of castor oil will sometimes get rid of the irritant cause and of the diarrhœa together. Unless this be the case, however, it is better not to give the aperient, since its action, under these circumstances, is somewhat uncertain; and it may aggravate, instead of relieve, the diarrhœa. Provided there be neither much pain nor much tenesmus, and the evacuations, though watery, are fæcal, and contain little mucus and no blood, very small doses of the sulphate of magnesia and tincture of rhubarb have seemed to me more useful than any other remedy. To a child of a year old I am accustomed to give, every eight or every six hours, a teaspoonful of an ounce and a half mixture, containing one drachm of the sulphate of magnesia, and two drachms of the tincture of rhubarb, diffused in caraway water; and I seldom fail to observe from it a speedy diminution in the frequency of the action of the bowels, and a return of the natural character of the evacuations.

In the *diarrhœa that comes on in connection with teething*, it has seemed to be better to pursue a somewhat different plan. There is in them, usually, a greater amount of constitutional disturbance, and some degree of febrile excitement; and to abate this, the use of the tepid bath, once or twice in the twenty-four hours, will be found very serviceable. There is, likewise, in many instances a considerable disposition to catarrhal affection of the respiratory mucous membrane; and this needs to be carefully watched, lest by its increase it should become a source of serious danger to the child. The diarrhœa in the majority of these cases comes on gradually, and its subsidence takes place gradually too. Now and then the gum may appear at one spot so tense and swollen as to induce us to scarify it; and if the tooth had been very near the surface, the effect of so doing may sometimes be greatly to diminish the diarrhœa, by relieving the irritation which excited it. Any such marked benefit, however, is quite an exceptional occurrence; and unless the state of the gums were such as of itself to indicate the propriety of scarifying them, it would be a rather cruel piece of empiricism to subject the child to the distress of the operation. Instead of the saline and rhubarb mixture which I have just mentioned, I usually employ in these cases small doses of ipecacuanha in combination with an alkali; and think that I have found great benefit from this plan. Three or four drops of liquor potassæ and the same quantity of vinum ipecacuanhæ mixed with mucilage, and given in a little milk about every four hours, is the dose for an infant a twelvemonth old. At the same time a powder of one grain of Dover's powder, and one of mercury and chalk, may be given every night, after the child is taken out of the warm bath, and will often be found to procure for the litttle patient, previously restless and fretful, some hours of quiet repose. If the child should appear much exhausted, a slight stimulant, such as four or five drops of the spirit of nitrous ether, may be advantageously combined with each dose of the mixture; and in all cases of simple diarrhœa it behoves us to watch most carefully against the powers becoming too much depressed, either by the profuseness of the purging or by its continuance.

Supposing in any case that a considerable degree of looseness of the bowels were to continue after the lapse of two or three days, astringents must be resorted to; and I know of none better than the extract of logwood, in combination with tincture of catechu. Five grains of the former and ten minims of the latter, three times a day, in some sweetened aromatic water, is a suitable dose for an infant a year old. The logwood, moreover, is something besides a mere astringent: it is a very valuable tonic in all cases where gastro-intestinal disorder has existed; and it is one which children take readily. It is, however, not very popular in the nursery, because it imparts to the evacuations a deep pink colour, which leaves an indelible stain upon the napkins: a circumstance which it is as well to mention when you prescribe the medicine. The mercury and chalk and Dover's powder may be still continued at bed-time, if the evacuations, though less frequent, be still slimy and unhealthy. If either the evacuations or the infant's breath have a sour smell, three grains of the sesquicarbonate of soda may be added to each dose of the mixture; or, if the child be not wholly fed at the breast, a drachm of prepared chalk may be stirred up with each pint of milk given to it, and after the powder has been allowed to settle, enough will still remain suspended in the fluid to counteract any slight acidity in the alimentary canal. If, after the bowels have become quite regular, some tonic should still be required, the extract of bark, with small doses of the tincture, will be one of the best that could be given. You will observe that all the remedies mentioned occupy but a very small compass: a point the importance of which is never to be forgotten in prescribing for children.

But there are cases which wear a much more serious aspect than those the treatment of which we have hitherto considered. Even in true *inflammatory diarrhœa*, however, depletion is but seldom needed, for either the abdominal tenderness is inconsiderable, or, if the attack set in with great severity, it will be generally found to have occasioned so much depression of the powers of the system as to contraindicate the abstraction of blood. Still, in cases of recent date, when the abdominal tenderness is considerable, and when it is associated with much heat of skin and febrile disturbance, a few leeches may be applied in either iliac region. The child should be carefully watched for some hours afterwards, in order to prevent any excessive loss of blood; since considerable hæmorrhage not infrequently follows the application of leeches to the abdomen, and it is not always very easily arrested. In the majority of instances the pain and tenderness of the abdomen are much relieved by the application of a large hot bran poultice; the frequent renewal of which often affords great comfort to the child.

If the irritability of the stomach be not so great as to prevent its administration, no medicine is of such general application, or of such essential service in these cases, as a mixture containing a small quantity of castor oil diffused in mucilage, with the addition of a few drops of tincture of opium, I was led to use this medicine in the inflammatory diarrhœa of children from observing the great benefit which followed its employment by my friend Dr. Baly in the treatment of dysentery among the prisoners in Millbank Penitentiary. The following is the form in which I should prescribe it for an infant a year old, and in which it is taken by most children very readily;—

> ℞ Ol. Ricini, ʒj.; Pulv. Acaciæ, ℈j.; Syrupi Simpl. ʒj.; Træ. Opii, ♏iv.; Aquæ Flor. Aurant. ʒvij. M. ft. mist. A tea-spoonful to be given every four hours.

Although this medicine may relieve all the symptoms considerably, and although the general state of the child may be much improved, yet it sometimes happens that a considerable degree both of tenesmus and of purging continue. These symptoms will now be more effectually relieved by an opiate enema than by any other means. Four drops of laudanum will form an enema of sufficient strength for an infant a year old; and this should be given suspended in half an ounce of mucilage, since a more bulky injection is almost sure to be immediately expelled. Supposing the symptoms not to yield to these means, or that the case presented from the first a great degree of severity, small doses of Hyd. c. Cretâ and Dover's powder may be given every four hours, in addition to the castor oil mixture, which, however, should now be given without the laudanum.

In some cases the *irritability of the stomach* is so great, that almost every thing taken is speedily rejected; and when this condition is present, none of the medicines already mentioned can be borne. Under these circumstances a small mustard poultice should at once be applied to the epigastrium, the child should be taken from the breast, a tea-spoonful of cold water, or cold barley-water, should be given at intervals, and a powder of a third of a grain of calomel, and a twelfth of a grain of opium, should be laid upon its tongue every three hours. The sickness will generally subside in four or five hours, though the stomach often remains too irritable to bear any change in the remedies, and the greatest caution will be needed in restoring the infant to the breast. It may be necessary, indeed, to confine the child for twenty-four or thirty-six hours to cold barley-water, cold water thickened with isinglass, the white decoction of Sydenham, or equal parts of cold milk and water; and when the child has been seen early in the disease, I have never observed any evil to follow the perseverance for this short period in a rigorous diet.

The tepid bath, employed twice a day, or even more frequently, will be found of great service in soothing that general *irritability of the nervous system* which often continues through the whole course of the affection, and which sometimes issues in convulsive seizures, or in other symptoms that are occasionally mistaken for the indications of real cerebral disease. It cannot be necessary to reiterate here the often-repeated caution against regarding the symptoms of disturbance of the nervous system as always the signs of active cerebral disorder, calling for depletion to relieve the congestion of the vessels of the brain, and for antiphlogistic measures to moderate the excited state of the circulation. In the second lecture* I endeavoured to set before you the very various circumstances under which convulsions come on in early life; and in the tenth† I tried to delineate the characteristic features of spurious hydrocephalus. On that occasion I related the history of two children, both of whom had been attacked by severe diarrhœa. In one case the child passed every few minutes from a state of listless drowsiness to a condition of extreme restlessness and alarm; the tendons of the forearm were in a state of subsultus, and general convulsions seemed impending. In the other case, the irritability of the nervous system was rapidly subsiding under the general exhaustion of the vital powers, and probably in a few hours more the infant would have sunk into a profound coma, from which no means would have been adequate to rouse it. The tepid bath and an opiate enema in the first-mentioned case, and the free employment of stimulants in combination with small doses of Dover's powder in the second, speedily averted dangers that had seemed so threatening. I need not, however, go again over all the ground we have already passed over, but will content myself with repeating the remark I then made,—that if, in cases of this kind, you fall into the error of regarding the cerebral symptoms as the signs of active disease, and withhold the Dover's powder or the opiate enema, that might have checked the diarrhœa and soothed the irritability, while you apply cold lotions to the head, and give the child nothing more nutritious than barley-water in small quantities, because the irritability of the stomach which results from weakness seems to you to be the indication of disease in the brain, the restlessness will before long alternate with coma, and the child will die either comatose or in convulsions.

As to the time when *stimulants* are to be given, or the quantity in which they are to be employed, no definite rule can be laid down. Each case must be treated for itself; and to be treated successfully it must be watched most closely. The necessity for stimulants may arise suddenly, or the need of their administration may be but temporary; while the infant's state in the morning affords, in cases of severe diarrhœa, no sure criterion by which to judge what its condition will be at night. In general it is not until the active symptoms have begun to decline that stimulants are needed, nor even then are they required in a large number of instances. I have, however, met with some instances in which they were absolutely necessary as early as the second or third day of the disease. This has occurred in cases in which there was great irritability of the stomach, as well as violent action of the bowels; in which no medicine could be borne except the calomel and opium powders, nor any drinks except such as were given cold. Under such circumstances a state of extreme debility is sometimes very rapidly induced, and the vomiting, which at first was a sign of the gastric disorder, continues when it is nothing else than an effect of the general exhaustion. About half a drachm of brandy given every two or three hours, to a child of a year old, in a quantity of a few drops at a time, mixed with the cold milk and water, or the thin arrow-root with which it is fed, will often have the effect of arresting the sickness, as well as of rallying the sunken energies of the system. No stimulant has appeared to answer the required ends better than brandy; and, when sufficiently diluted, children take it very readily. Sometimes, however, when it has been necessary to continue it for some time, it has seemed to occasion pain in the stomach, and even to nauseate the child; and in this case the compound tincture of bark, or the aromatic spirits of ammonia, or the two together, may be substituted for it; and there is seldom much difficulty in administering them, if they be mixed with milk and sufficiently sweetened.

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* Med. Gaz. vol. xxxix. p. 883.
† Ibid. vol. xl. p. 439.

The proper time for the employment of *aromatics* and *astringents* is not during the acute stage of the affection; but when the disease has already begun to decline, these remedies will be found of most essential service in checking that looseness of the bowels which otherwise is very apt to degenerate into a state of chronic diarrhœa. Under these circumstances the logwood and catechu mixture, mentioned at an earlier part of this lecture, is a very valuable medicine. If, notwithstanding its employment, the bowels still continue to act with excessive frequency, small doses of the compound powder of chalk and opium may be given twice a day, or the use of the opiate enema may be continued if there be much *tenesmus*. By these means, coupled with the most sedulous attention to the child's diet, and the greatest care in allowing either animal broths, or meat or other solid food, a complete cure will usually be brought about in the course of two, or at latest of three weeks.

There are some cases in which, after the disease has passed its acute stage, it still retains much of its dysenteric character; the bowels not merely acting with undue frequency, but the evacuations containing mucus, pus, or blood, and their expulsion being attended with very considerable tenesmus. The strength in such *chronic* cases is very greatly reduced, and emaciation goes on to a greater degree than in almost any other affection, with the exception of phthisis and mesenteric disease; while the bowels are excited to almost immediate action by even the simplest food. The treatment of these cases is attended with considerable difficulty; recovery, when it does take place (and it is consolatory to know that it often does, even from a condition apparently desperate), is brought about very slowly, and each remedy employed seems speedily to become ineffectual. Throughout their course two objects are to be borne in mind: one being to check the diarrhœa; the other to support the child's strength during the time required for nature to effect the cicatrization of the ulcerated mucous membrane, and to restore it to a state of health. The utility of mercurial preparations has appeared to me to be almost exclusively confined to the early stage of dysentery, and to cease when the disease has passed into the chronic form. On the other hand, astringents may now be employed with the most marked benefit, and, when one fails, another may be substituted for it. In cases where the stomach has been very irritable, so that almost everything taken has been speedily rejected, I have sometimes employed the gallic acid in combination with laudanum, and have seen much benefit follow from its use. At other times I have given the acetate of lead likewise with opium—a combination which, notwithstanding that decomposition takes place, yet retains its efficacy when given in the form of mixture. The sulphate of iron combined with opium is another highly useful remedy in these cases, and appears to have this advantage over the sulphate of zinc, which has likewise been used in similar cases—that it does not excite the same irritability of the stomach.

Our remedies are not to be confined to those administered by the mouth; for much may be done towards relieving the symptoms and curing the disease by suitable enemata. In some cases of unmanageable diarrhœa, M. Trousseau employs an enema of nitrate of silver in the proportion of a grain to an ounce of distilled water, with very good effect. I have never employed it, but have sometimes used the gallic acid as an enema, though not sufficiently often to be able to form any very decided opinion as to its efficacy. In the majority of instances I have been content with glysters of laudanum diffused in mucilage, or in a small quantity of starch; occasionally in protracted cases, where the tenesmus was very distressing, I have used the black wash as a vehicle for the laudanum; and, on one occasion, in which a copious discharge of pus continued from the lower bowel for several days in a little boy two years old, this symptom was greatly relieved by the administration, twice a day, of an enema containing two grains of sulphate of zinc.

The support of the child's strength is a matter of no less importance in chronic dysentery than the suppression of the diarrhœa. The great weakness of the patient, and the manifest distaste for nourishment of all kinds, often render it necessary to continue the use of brandy for several days, or even for several weeks. For an infant not weaned, there can be no better food than that which is furnished by the breast of a healthy nurse. In the majority of cases, however, the child has been either in great measure or altogether weaned before the affection came on, and consequently it is a less easy matter to supply it with suitable food. Farinaceous articles, such as arrow-root, sago, &c. are less easily assimilated in early life than in adult age, and not infrequently they pass in cases of this kind through the alimentary canal unchanged. Milk, too, does not always agree, and is sometimes rejected almost at once, unless it be given in a state of extreme dilution. Under these circumstances we must not hesitate to give strong beef or veal tea in small quantities, but at short intervals, to the patient; for though it be true that the bowels are often excited to increased action in cases of chronic diarrhœa or dysentery by animal broths, yet this is a smaller hazard than that of the child dying for want of sufficient nutriment. I may add, that, when prepared with care, and quite free from salt or any seasoning, and when given cold, I have seldom observed any serious increase of the diarrhœa to follow their use.

Two accidents are occasionally met with in connection with protracted diarrhœa in infants and young children, concerning each of which a few words must be said. It is not unusual to observe a general erythematous redness of the buttocks and nates in infants suffering from severe diarrhœa, and sometimes the irritation of the acrid fæces produces an *attack of intertrigo*, and a serous fluid exudes abundantly from the inflamed skin. This condition, which is the occasion of very considerable suffering to the child, almost always depends upon a neglect of that most scrupulous cleanliness which is of such essential importance in early life. In order to prevent its occurrence, the nates and buttocks must be sponged with warm water immediately after each evacuation; the surface may afterwards be smeared with a little Ung. Zinci, while any part at which the skin seems disposed to crack should be dusted over with the oxide of zinc in powder. These simple precautions will usually suffice to prevent a condition which, in some of the hospitals of Paris, where such sedulous care is almost impossible, degenerates into a state of unhealthy ulceration that exhausts the infant's power, and sometimes contributes to its destruction quite as much as the diarrhœa in the course of which it came on.

Prolapsus of the anus is another rather troublesome accident which sometimes takes place in the course of protracted diarrhœa. It abates, however, almost always as the diarrhœa diminishes, and generally ceases altogether as the child regains its strength. When there is a disposition to it during the acute stage of the affection, this may often be controlled if the nurse be instructed to support the margin of the anus during each evacuation, and thus to prevent the descent of the bowel, while the opiate enema which relieves the tenesmus is of most essential service by thus removing the cause of the prolapse. The child's attendant should also be taught how to return the bowel if it should come down, and this is best effected by means of gentle pressure with a napkin wrung out of cold water. If, as the diarrhœa abates, the prolapse should still continue, and especially if the gut should come down independent of efforts at defecation, it may be necessary to make the child wear a compress and bandage to prevent its descent. In such cases, too, an enema consisting of a small quantity of some astringent, such as the decoction of tormentilla, should be administered cold once or twice a day, and no instance has come under my notice in which these measures, persevered in for a few weeks, have not sufficed to remove this troublesome ailment.

ELECTION OF MEMBERS OF COUNCIL AT THE ROYAL COLLEGE OF SURGEONS.

At a meeting of the Fellows of the College, held on Thursday, July 6th, three new members of Council were elected to fill up the vacancies occasioned by the decease of Messrs. Briggs, Liston, and Morgan. The gentlemen present having been addressed by the President, proceeded to ballot for members, when Messrs. Bransby Cooper, Skey, and Stafford, were elected; after which the party dined together at the Freemasons' Tavern. Many gentlemen attended the election from distant parts of the kingdom.

CLINICAL LECTURE
ON
PARALYSIS,

Delivered at King's College Hospital,

BY R. B. TODD, M.D. F.R.S.
Physician to the Hospital.

(*Reported by* Mr. S. I. A. SALTER, A.K.C.)

GENTLEMEN,—I beg to-day to call your attention to the subject of Paralysis. I have at present five cases in the hospital, which exemplify different forms of palsy; so that I shall be able to illustrate my observations on these diseases by reference to cases which have been under our immediate inspection.

Let me, however, first make some general observations on the conditions which give rise to and attend paralysis. I must ask you to receive my statements on these points as so many *postulates;* for it would occupy too much time to enter into the proofs which could be adduced to demonstrate the correctness of my propositions.

In the first place, then, you must not look upon paralysis as a disease of itself: it is not a disease, but a symptom of a disease. Non-medical people, and sometimes even medical men, are apt to speak as if the palsy constituted the whole essence of the malady; but this is not the case. Paralysis is an effect due to a cause, which cause itself is not always the essential disease.

What are the causes which may give rise to paralysis? These are, either an affection of the nerve or nerves, whose power is destroyed, in some part of their course, or a morbid state of the centre in which the nerve or nerves are implanted, or with which they may be less directly connected. The nervous trunks themselves may be impaired in their nutrition, the centre being healthy, or they may have suffered some mechanical injury from violence or pressure; thus either they become imperfect conductors of the nervous force, or they are rendered altogether incapable of propagating it; or some portion of the centre of volition is the seat of a morbid process, whereby the influence of the will over certain parts is suspended, and thus the nerves of those parts receive no impulse at all from that centre, whether mental or physical; and, although perfectly healthy in themselves, are incapable of taking part in voluntary acts.

I would say that the centre of volition is of very great extent: it extends from the corpora striata in the brain down the entire length of the anterior horns of the grey matter of the spinal cord, including also the locus niger in the crus cerebri, and much of the vesicular matter of the mesocephale and of the medulla oblongata. A morbid state of any part of this centre is capable of producing paralysis; but as the intracranial portion of it exercises the greatest and most extended influence in the production of voluntary movements, so disease of this portion gives rise to the most extended and complete paralysis.

Another fact which I would impress upon you is one which anatomy in a great degree demonstrates, and which pathological research confirms—that the centre of volition for either side of the body is not altogether on the same side of the body. Of the centre for the left side, for instance, the intracranial portion is on the right side, and the intraspinal portion on the left side, and these two portions are brought into connection with each other through certain oblique fibres from the anterior pyramids which cross from right to left, decussating with similar fibres proceeding from left to right, and belonging to the centre of volition of the right side.

Having made these introductory observations, gentlemen, I will now pass on to the consideration of the cases; and the first we shall take is that of Halliday, in Sutherland ward, as affording a good example of a very serious form of paralysis, of very common occurrence in the London hospitals—I mean paralysis from the poison of lead. The patient is 30 years of age, by occupation a house-painter, of temperate habits. It appears that he was never obliged to desist from work on account of illness until about three years ago, when he had an attack of colic, for which he was treated in a hospital in town, and perfectly recovered. He has since had several slight attacks. About three weeks ago he first noticed that his wrists became weak, and began to drop, and that he became very nervous and irritable. About this time, or rather later, he had two paroxysms of general convulsions, fits of epilepsy, during which he suddenly fell down, lost his consciousness, and struggled violently, but he did not bite his tongue. These attacks occurred once daily on two succeeding days, came on without any warning, and lasted about ten minutes. He has frequently had cramps in the arms and legs, but no other pain in the limbs. For some weeks past he has noticed a blue line on his gums: bowels generally confined.

I have on many occasions pointed out to you the remarkable and peculiar condition of this man's arms. When they are held out, the hands drop, from his inability to maintain them in the state of extension; nor can he, by the utmost effort, bring them into the state of extension. His power of extending the fingers is also impaired, but to a less degree. If you examine the posterior surface of the forearm where the extensor muscles are situate, you will find that space rendered quite concave, from the atrophy and consequent shrinking of the muscles. The forearm has lost its plumpness in this region, and, by pressure, you can feel the interosseous membrane. These are not the only muscles affected: those of the ball of the thumb are also wasted, and the movements of the thumb are much weakened, especially those of opposition. But in this case the wasting of these thumb muscles has by no means gone to so great an extent as you may often find in extreme cases. The flexor muscles of the forearm have suffered slightly in their nutrition, and have lost much of their firmness; their power is consequently much affected; and, although the patient can flex his wrist with sufficient power, he cannot grasp with full force. The general movements of the arm are accompanied with that kind of tremulousness which so frequently accompanies enfeebled states of nutrition of the muscles. The deltoid muscles are quite paralysed, so that the patient has no power to raise his arm or maintain it at right angles with his trunk. The lower extremities are not paralysed, but they participate slightly in the general weakness.

In addition to the symptoms above detailed, we find in this patient that curious sign of the presence of lead in the system first pointed out by Dr. Burton—namely, the blue line or margin of the gums surrounding; the necks of the teeth, present only where the teeth or their stumps are in the alveoli, and ceasing where a tooth is wanting. There is no indication of any affection of the central organs of the nervous system, although those organs cannot be regarded as sound; the digestive organs are natural, as also those of circulation and respiration; the pulse is 69, and feeble; and the secretions healthy.

It is not very common to see the muscles above the elbow much weakened in lead-palsy; in this case, however, that condition existed in a very marked degree; and not only were the biceps and triceps thus affected, but the deltoid was so much paralysed that the man could scarcely raise his arm, much less extend it at right angles to his body. He still has, although some time under treatment, a symptom which was much more obvious at first—namely, a trembling agitated manner, like that of an intemperate man in a state of incipient delirium tremens. It is not improbable that this, to a certain extent, did arise from intemperance, for although he did not call himself intemperate, he was fond of his glass, and intemperance is a very common vice among those of his trade. I believe, however, that it mainly depended upon a general diffusion of the lead poison through his muscular and nervous systems. Again, you will remember that he had epilepsy, and evidently in connection with the same causes which produced paralysis; the fits were slight, but still they were distinctly epileptic; they had all the essential characters of that disease: there was the sudden fall, the loss of consciousness, the convulsion. He has had, moreover, cramps in the arms and legs.

The question here arises—what is the particular tissue or organ affected in the paralysis of house-painters and others exposed to the influence of lead? I believe that the muscles and nerves are early affected, and that, at a subsequent period, the nervous centres become implicated. The nervous system is affected at the periphery of the nerves first, obviously, and the poisonous influence continuing, the contamination gradually advances to the centres, as is sufficiently shewn by the fact that the local paralysis always precedes, and generally for some considerable time, the epileptic convulsions and other symptoms of centric disease. In this case the epilepsy shewed itself unusually early.

Another question suggests itself to us here —what is it that thus contaminates the muscular and nervous tissues, and impairs their functions? To this we answer, without hesitation, it is lead, existing materially in the affected tissues. If you examine the gums of patients suffering from lead-palsy, you will perceive a bluish areola on, or rather in, the gum, close to the neck of each tooth; and this is produced by lead existing there in some unknown combination with the tissue; and you may produce precisely the same effect by giving acetate of lead in small doses to patients for some time. The most positive evidence, however, is given us by the post-mortem examination of patients who have died from lead-poisoning; for from their muscles and brains chemists are able to extract lead in notable quantity.

People whose bodies thus become impregnated with lead, are those whose employments require them to use that material in large quantity; and, in our London hospitals, house-painters are those whom we have most frequently to treat for this malady. These men get the lead paint upon their skin, where it may become absorbed, or inhale it into their lungs in the form of small particles of the powder with which the paint is made, floating in the air; or it may be mixed with the saliva, and so get into the stomach. From one or all of these sources the lead gets into the circulation, and during its course through the body becomes deposited in the affected organs, or combined with their constituents in some way or other. But why, it will be asked, does it slight upon the muscular and nervous tissues chiefly? why upon the muscles of the extremities, rather than those of the trunk? and why upon the extensor muscles in preference to the flexors? The answer which appears to me most satisfactory, and which offers the best explanation of the phenomenon, is this—that those tissues in which the nutrient changes are most active receive the largest supply of blood, and that blood, being loaded by a poisonous material, would impregnate them with it to a greater degree than other tissues in which the circulation is less active; that, for this reason, such highly-nourished structures as muscle and nerve become poisoned early; that, as the muscles of the upper extremities are used more, and probably on that account experience more active nutrient changes than those of the trunk and lower extremities, they are poisoned sooner than those muscles. Moreover, in painters, the extensor muscles of the arm, as well as the muscles constituting the ball of the thumb, become principally paralysed, because they are most exercised during the practice of painting; and as they are more exercised, are consequently more supplied with blood—poisoned blood—to repair the waste that is going on in them.

Patients who die of lead-poisoning are generally such as have been long exposed to its influence, or have addicted themselves to intemperate habits. The morbid appearances in the brain and spinal cord are such as denote imperfect nutrition of those centres, and are frequently associated with marks of chronic irritation of the membranes, such as frequently accompany intemperance; these changes are doubtless also due to the presence of lead. The brain especially presents the appearance of an ill-nourished organ: pale, soft; its convolutions wasted; the sulci between them wide; and sometimes patches of white softening are seen in the hemispheres. I have seen this condition in patients who have experienced several paroxysms of epilepsy before death, or who may have died in one.

Treatment.—In the treatment of lead-palsy, the great object is, if possible, to eliminate the poison from the body, and to prevent the introduction of further supplies of it.

The patient should be kept clean, should wash much, and use such means as friction, exercise, &c., to stimulate the excreting power of the skin.

It has been thought that sulphur, when introduced into the system, has the power of neutralizing the effects of lead, by forming some innocuous compound with it; whether or not any such compound is formed I cannot say, but I have certainly found sulphur a very useful remedy, in the form of a sulphur-bath. The bath which I order for my patients consists of one, two, or three ounces of sulphuret of potassium, mixed with as many gallons of water. I give this to my patients empirically; but I am quite sure they derive much benefit from its employment.

Galvanism, as a local stimulant to the nerves, should not be neglected; I am certain it is of service. Our patient Halliday was much improved by it; and I mainly attribute the recovery of his power of moving his deltoid muscle, which he has now done, to its use.

In the use of galvanism, you must take care not to continue its employment too long each time. Half an hour each day, or still better ten minutes or fifteen minutes at three different periods of the day, will be found quite sufficient.

Added to this, the subjects of lead palsy should breathe pure air, and have good sustaining food.

The next case, gentlemen, is one of paralysis of the arm produced by a bandage improperly applied to a man who had suffered fracture of the clavicle; and I hope that from it you will not only learn an important lesson in pathology—namely, that pressure on a nerve is capable of producing paralysis of the parts supplied by it, and likewise the particular treatment which paralysis so produced requires; but I hope that you will also deduce a moral from it,—that a surgeon cannot be too careful in daily watching cases that are under his care, and in noticing every symptom which may indicate that his patient is not progressing favourably; for had that been done in the present instance, this man would not have come to our hospital with paralysis of his arm. I am happy to say that the bandage was not applied at King's College Hospital, and indeed, from the character of the gentlemen who have filled the office of house-surgeon here, I believe such an accident could never have happened among us.

The patient who is the subject of this case has been in the hospital before under my care, for some pectoral complaint, when a full report of his history—his former health and habits, were taken; the notes made at his admission for his present illness are, therefore, rather brief: I will read read them to you.

"Timothy Sullivan, admitted into Rose ward, November 18th. This patient is 23 years of age, a native of Cork; has lived in London for about a year; in occupation, a labourer. Last June he was admitted into this hospital, suffering from pain in the side, and cough; both these symptoms were relieved, and he went out. Shortly after leaving the house, his right clavicle was broken by an old wall falling upon him. He went to an hospital, and the ordinary figure-of-eight bandage was applied. After a time, the patient found that his right hand and arm were numb; and soon after this he noticed a great loss of power of the extensors of the hand. Notwithstanding these symptoms, the bandage was allowed to remain, and both the paralysis of sensation and muscular motion have continued up to the present time.

Nov. 19th.—At present there are numbness of the hand and arm, and entire loss of power in the extensors of the hand, which is completely flexed when the arm is raised. All the muscles of the arm have less power than natural.

This case was treated with galvanism, and the patient left the hospital better, having gained some power of the extensors, and that of the flexors being nearly restored to their healthy state. It was some time, however, before the improvement became manifest. In the reports of the 22nd and 26th of November, it is stated that no change had taken place, and he first began to mend on the 28th.

Paralysis produced by pressure on the axillary plexus of nerves is not of uncommon occurrence; I have seen some cases in which it was produced in the following way:—A man gets intoxicated, and falls asleep with his arm over the back of a chair; his sleep under the influence of his potations is so heavy, that he is not roused by any feelings of pain or uneasiness, and when at length he awakes, perhaps at the expiration of some hours, he finds the arm benumbed and paralysed. It generally happens that the sensibility is restored after a short time, but the palsy of motion continues: galvanism should be employed in these cases, but if the pressure, which caused the paralysis, had been very long continued, these cases seldom come to a favourable termination. Nerve tissue is one which does not regenerate quickly or completely, so that any great or long continued lesion of its structure is likely to become a permanent condition.

I shall next call your attention to a case illustrative of another form of paralysis—namely, hysterical paralysis.

The following is the report of the case:—Mary Leigh, æt. 42 years, was admitted into Lonsdale ward on October 28th: states that she is a native of London, where she has resided all her lifetime; she lived in occupation as a housemaid for twelve years, when she was married; has been a widow for seven years; had an attack of rheumatic fever when she was 15 years of age, and a second about nine years ago; three years since she had erysipelas in the left ankle; and twelve months back she suffered from typhus fever.

About six weeks ago she worked hard for several succeeding days, during which time she suffered from headache, and going to bed tired on a Saturday night, fell asleep almost immediately. About five o'clock on the following morning, she woke up with pain and loss of power in the right arm. For this she applied to a druggist, who purged her and gave her a liniment for the arm. About three weeks after this, she became an out-patient at this hospital: took mineral and saline purgatives for a fortnight, when the leg also became affected like the arm, with pain and loss of power; she also suffered from pain in the head, and dimness of sight.

In this case the most important points to be remembered are these:—In the first place the invasion was very sudden, and occurred after hard work, and it was accompanied by no loss of sensibility, and no impairment of intellect. The face is quite free from paralysis; and this, considering the extent of the paralysis elsewhere, is a remarkable circumstance. I was at first, however, disposed to think that there was a small amount of facial paralysis; but I am now quite sure that that is not the case, and that what I took for palsy is nothing more than that want of symmetry on the opposite sides of her countenance, which the majority of people present. Examine the faces of a number of persons collected together, as I, with a numerous class before me, have now an opportunity of doing, and I will venture to say that, without any disparagement to the good expression of the countenance, you will find but few which exhibit perfect symmetry. The tongue, too, at first sight, appeared to be paralysed; but we soon discovered that the obliquity in the direction in which the tongue was protruded was due to a cause which will be very apt to mislead you if you are not prepared for it, namely, an undue projection of two or more of the teeth in the lower jaw, which gave an oblique direction to the movement of the tongue.

Now in this case there is no evidence of brain disease; all the symptoms under which the patient labours may have occurred independently of disease of that organ. There was no injury, no suspension of intellect; the function of deglutition was unimpaired; there is no tongue or face paralysis; pain of the head there was, but this was not fixed in its position. All this militates against the idea that these symptoms were caused by any lesion of the brain. What, then, it will be asked, did cause them? We know that there are certain conditions of the system—*hysterical*—in which organic diseases are simulated by mere functional disturbance, and that even the gravest diseases are occasionally imitated with great accuracy, and among these paralysis. Hysterical paralysis, however, generally affects only one limb, or a portion of one limb, as a joint or a finger. The case of Mary Leigh, which we have just been considering, I believe to be one of hysterical paralysis in its least common form, being far more general than usual, and nearly amounting to hemiplegia. Added to the negative evidence which I have already adduced, there is much positive evidence to show that the malady is an hysterical affection; the patient's physiognomy is hysterical, as well as her general constitution; the catamenia have been irregular; she has had decided globus hystericus, and is in the habit of voiding large quantities of very pale urine of low specific gravity. Again, the great extent of the paralysis in the limbs, and the total absence of it in the face and tongue, are certainly evidence in favour of its hysterical character; for although hysterical paralysis occurs in all parts of the trunk and extremities, it very rarely, if ever, attacks the face. But I would particularly call your attention to the peculiar character of the movement of the paralysed leg when the patient walks, which, in my opinion, is quite pathognomonic of the hysterical affection. If you look at a person labouring under ordinary hemiplegia from some organic lesion of the brain, when he walks you will see that he uses a particular gait to bring forward the palsied leg: he first throws the trunk to the opposite side, and rests its entire weight on the sound limb; and then, by an action of circumduction, he throws forward the paralysed leg, making the foot describe an arc of a circle. Our patient, however, does not walk in this way; she drags the palsied limb after her, as if it were a piece of inanimate matter, and uses no act of circumduction, nor efforts of any kind to lift it from the ground; the foot sweeps the ground as she walks. This I believe to be characteristic of the hysterical form of paralysis.

Were I to enter into the pathology of this case at full length, I should have to discuss the whole subject of hysteria, which alone would occupy more than one lecture to do it justice; I must at present content myself by stating, that I believe hysterical paralysis is caused by a depraved nutrition of the nerves of the limb affected, or of some part of the centre of volition. Moral causes no doubt exercise an important influence in the production of this state, and the power of the will becomes impaired; but that a depraved state of general nutrition, which tells chiefly upon the nervous system, or upon parts of it, is at the foundation of the malady, I think no one can doubt who considers fairly its natural history.

In the treatment of these affections you must direct your attention chiefly to the improvement of the general constitutional state of your patient, by diet, by good air and exercise when they can be obtained, by cold bathing and improving the condition of the skin, by the use of such vegetable or mineral tonics as may be suitable to her digestive organs, and by regulating the action of the bowels, and promoting the renal, uterine, and other excretions. Many cases are perfectly curable by these means only; and all cases should be treated in this way at first. The mind should be diverted as much as possible from the paralysed limb or part, and its exercise, by indirect means, promoted as much as possible.

If these means fail, then local treatment may be had recourse to. And for this purpose galvanism is, I think, very useful: it must be employed gently, so as not to alarm the patient, and its intensity may be gradually increased and varied, according to circumstances. The galvanic trough may be used at first, and afterwards the coil machine, which, however, admits of easy variations of intensity, from shocks scarcely to be felt up to those of such intensity as to be beyond endurance. Such violent shocks you will not, of course, have recourse to; their influence extends beyond the affected parts, and is calculated to disturb the healthy action of the nervous centres. Mild shocks applied for short periods, two or three times in the day, varying the direction of the current, allowing it to pass at one time from centre to circumference (direct), and at another time from circumference to centre; this mode of applying electricity you will find most successful in restoring the healthy action of the paralysed parts.

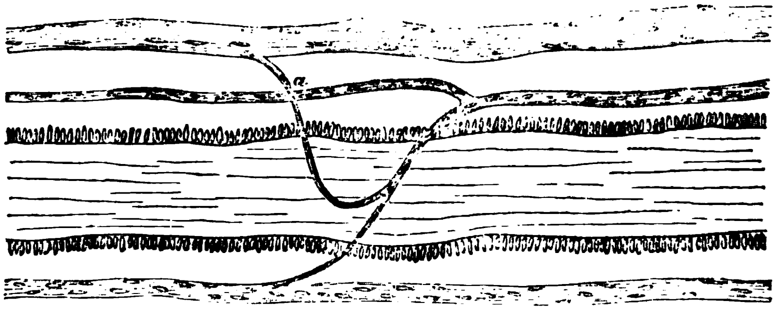
Original Communications.

ON
THE NERVES OF THE LIVER.

By C. H. Jones, M.B. Cantab.
Physician to Chelsea Dispensary.

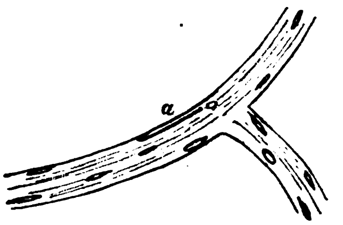
The liver receives a pretty ample supply of nerves from various sources: branches of the left pneumogastric, branches from the semi-lunar ganglia, and some from the right phrenic, are usually described as entering the organ at the transverse fissure. Having entered the portal canals, they run in the areolar tissue which surrounds the vessels, and may be seen distinctly in great numbers when the coats of the vein are dissected off. By ordinary dissection they may be followed some distance along the portal canals, but nothing satisfactory can in this way be determined respecting their distribution and arrangement. In endeavouring to ascertain something more precise respecting these points, I adopted the following mode of proceeding:—Having slit up a portal canal throughout the greater part of its extent, I selected a part where the lining membrane of the vein was of sufficient tenuity, and yet still separated by an areolar investment from the parenchyma of the parietal lobules; the coats of the vein were then carefully dissected off, laid on a slip of glass with the outer surface uppermost, and rendered transparent by acetic acid; when the specimen was now moderately compressed, it could be conveniently examined with a power of 200 linear, which was quite sufficient to enable the eye to recognise the smallest filaments of the nerves. The examination of such a preparation shews that a very large number of nerves are distributed to the coats of the divisions of the portal vein; they form trunks of various size, which continually divide and unite with other branches, so as to constitute a plexus with elongated meshes; this arrangement obtains so completely, that it is often by no means easy to determine what is the general direction which the stream is taking, or whether what appears to be a division of a branch is not really an anastomosis. In following further the course of the smaller branches, one is soon led to remark the very great length of the distances they run: very often a small branch, say $\frac{1}{1500}$ in. diam., separates from a trunk, and runs along the surface of the coats of the vessel for a distance too great for measurement; after thus wandering, as it were, for a long way, it often joins with another filament, and the resulting one again pursues a like course; perhaps soon dividing again, and uniting with others, or proceeding to join some distant trunk. This plexiform disposition is certainly the most frequent; but in several instances it may be observed that, during a long course, the structure of the nerve filament becomes gradually less marked, the nuclei fewer and more widely "espacés," and the fibrous striatum more faint, until at last it can be no longer discerned; this mode of termination I think really occurs, though there is risk of being deceived by the nerves having suffered injury in the preparation of the specimen.

FIG. 1.



A small artery, with organic nerves accompanying it; the smaller filaments are seen passing across the vessel. At *a*, two branches decussate each other.

FIG. 2.



A small organic nerve; at *a* is seen a small portion of a tubular fibre.

The supply of nerves to the hepatic artery is extremely abundant, more so, even, than that which belongs to the portal veins; one of its branches, removed from a portal canal and treated with acetic acid, is generally found to be surrounded with nerves. The larger trunks mostly run parallel to the vessel, sometimes they cross, and form communications upon it; from these, small branches and filaments separate, which run often a long way, dividing and communicating with each other, much in the same way as upon the coats of the portal veins. In some of these anastomoses, where a branch joined another nearly at right angles to its course, I have remarked that the nerve beyond the point of junction was little, if at all, larger than before it; and further, that the uniting branch did not pass simply in one direction, and blend with the receiving one, but that the filaments of the former passed in both directions, towards and from the periphery; this was rendered clearly manifest by the elongated nuclei at the line of union being curved in a corresponding manner. As the supply of nerves to these arteries is so abundant, and as they are favourable objects for examination, it seems probable that the question of the mode of termination of the organic nerves may be solved by a careful examination of the minute filaments in this situation. In endeavouring to ascertain this point, it has appeared to me, that most commonly the minute branches, after running a long course upon the coats of the vessel, either unite with some other filament, which again runs on in a similar manner, or enter some neighbouring trunk; sometimes, however, the filament which one is tracing, cannot be followed to a junction with any other, but is lost, its structure gradually becoming indiscernible. In this way, I believe, some of the minute branches terminate; but I do not think there is any blending of the nerve filaments with the fibrous or arterial tissues: they appear to me to retain their distinctness, even when reduced to their minutest size. The very circumstance of the small branches running so long a course as they do, seems to indicate pretty certainly that the influence which they convey produces its effects, not at any terminal point, but wherever the conducting filament is in contact with the arterial tissue. This view is supported and illustrated by the following observation:—A nerve of some size was seen running parallel to an artery, and, close to its margin, it gave off a filament, which inclined so as to get upon the coats of the vessel, then turned and ran for some distance upon them, forming a gentle curve, and returning at last to its parent trunk, with which it subsequently proceeded in the peripheral direction. Now it cannot be supposed that this filament should thus have deviated from its original course, had it not been thereby enabled to exert a more effectual influence upon the vessel with which it came into relation. Another circumstance respecting these organic nerves is worth noticing, viz. that in the very long courses which they run, they may be seen to taper, and gradually become less distinct, their diminution not being occasioned (or but slightly) by a separation of a part of their substance in giving off filaments, but taking place as it were *per se*. This remark I wish to apply to the small branches, and not to the trunk. I have occasionally observed, that when two branches proceeding nearly in the same direction, and uniting at an acute angle, proceed onward in a common trunk, the size of this is by no means proportionate to the aggregate of the two from which it is formed; it seems, indeed, as if some of the anastomoses resembled rather the blending of vessels than the juxta-position of nerves. Having mentioned the above facts, which have some bearing on the question as to how the nerves terminate, I may now add, that after a diligent examination of the portal vein and hepatic artery, I am disposed to believe that, in both these situations, the nerve filaments frequently form real terminal loops. The point, however, is most difficult of determination; for the great majority of minute branches form anastomoses with others, and even when a filament has been traced from one trunk apparently returning into another, it remains often doubtful what is the real direction which this last is taking; whether in fact it may not be running in the same course as the anastomosing filament itself. Admitting, however, that looping does occur, either by the peculiar mode of junction before described, or in the ordinary way, I still think that it does not sufficiently account for the great multitude of nerves which run upon the coats of the vessels; and it seems on the whole most probable, that the greater number of branches have no proper termination, but that as the plexus proceeds, the smaller filaments gradually rejoin the larger branches, and these again diminish in size, tapering as it were of themselves, and not merely lessened by the separation of filaments. This is not so satisfactory an account as I could wish to have given, but it is most in accordance with repeated observations, and it is not contradicted by any knowledge we have of the functions of the nerves.

The coats of the hepatic veins examined in a similar manner to those of the portal, exhibit a much more sparing supply of organic nerves; sometimes I have scarcely been able to find any filaments upon them. The ducts also seem to have but few nerves appropriated to them; when a branch is laid open and examined from the outer surface, it is manifestly by no means so richly supplied as the bloodvessels in the same canal, a circumstance which was certainly contrary to what I had expected.

How far the organic nerves accompany the vessels in the portal canals is not easily determined; they certainly do not enter the lobules, and probably cease before the vessels in their diminishing progress have laid aside the tractile coat of circular fibres; the smaller hepatic arteries have not appeared to me to possess so many nerves, in proportion, as the larger.

Respecting the structure of the nerves in the liver, they consist almost wholly of the fibres termed by Henlé "gelatinous," with which, however, are mingled a few cerebro-spinal tubules. Many of the branches, indeed all the smaller ones, are composed of gelatinous fibres only, and it is by no means uncommon to see only a *single* tubular fibre in a nerve of some magnitude. In this case, of course, the tubule must terminate without forming a loop, and it is difficult to make out exactly what becomes of it; but I think that it loses the white investment, and is then confounded with the surrounding substance. I may here mention an observation which has some interest, in respect of the mode of development of the tubular fibre, and its relation to the gelatinous. A small nerve running upon an hepatic artery presented the usual elongated nuclei set in a finely striated substance; some of these had a pellucid middle portion and dark margins. In the situation of one of them, on the edge of the nerve, there was a very exact resemblance of a small tubular fibre: it was scarcely more than twice the length of the elongated nuclei, and appeared very much as if it had resulted from the development of one of them: it lay quite alone, no other portion of tubular fibre existing in the same nerve. I subsequently noticed similar appearances in other branches. This single observation is not of much weight; but, if confirmed, there would be additional evidence in favour of the view that the tubular fibres are a higher development of the gelatinous. The tubular fibres extend a considerable way in the peripheral direction. I have seen them in branches taken from a portal canal shortly before its termination at the free border of the liver. I may remark, that though I have spoken of the nerves in the liver as mainly consisting of gelatinous fibres, yet it appears to me very doubtful whether, in this part of the sympathetic system at least, there are really distinct and separate fibres which could be termed ultimate. I should rather describe the organic nerves (in the liver) as bands of a finely striated or granular material, in which elongated nuclei are set at intervals; that this basis substance has a tendency to divide in the longitudinal direction is certain; but I do not think that it actually is so divided. This view immediately suggests itself when one is examining a minute branch containing only a few nuclei, and is also confirmed by the appearance of the cut extremity of a nerve, from which nuclei may be sometimes seen projecting without being surrounded by any of the substance which should constitute the fibre.

I have spoken unhesitatingly of the sympathetic plexuses and their ramifications in the liver as consisting of organic nerves, feeling no manner of doubt that they really discharge the function of conductors of the nervous influence. This opinion, besides the satisfactory arguments adduced in its favour by the authors of the "Physiological Anatomy," is supported, I think, by these circumstances:—1. Acetic acid, moderately diluted, produces less effect on these nerves than on white fibrous tissue; though they are rendered more transparent by it, yet a kind of fibrous striation, independent of the nuclei, continues to be more or less plainly discernible, sometimes in a very marked manner; and when a piece of the coats of the portal vein is treated, as I have described above, the nerves are seen by the naked eye as whitish bands ramifying and interlacing, completely distinct from the surrounding transparent substance. 2. In examining small vessels from the pia mater of a sheep's brain, I have found distinct organic nerves ramifying upon their coats; while in similar vessels from the brain of a cat I have found the nerves manifestly consisting of tubular fibres; moreover, in following the course of these latter, I think I have observed that a fasciculus, which, in the commencement of its course, consisted mainly of cerebro-spinal tubules, after proceeding some distance, changed its character, and came to present the appearance of organic nerves either completely or in part, a single tubule being still sometimes visible in a longitudinally striated band bearing elongated nuclei. Now, if a nerve consisting of tubular fibres can be replaced by one consisting of gelatinous fibres, and if one also may be converted into the other, as in fact we know to occur in the progress of fœtal development, then is it highly probable that the functions of either variety of fibres are similar, if not quite identical. 3. The arrangement of the gelatinous fibres in well-defined fasciculi which closely accompany the course of vessels, the regular manner in which they ramify and anastomose, and their entire distinctness from the surrounding areolar tissue, seem to me to shew conclusively that they must be special structures designed for some more special function than that fulfilled by the areolar investment of vessels and ducts.

In concluding this brief account of the organic nerves in the liver, I cannot but remark on the very abundant supply with which the hepatic artery is provided; I believe it exceeds in this respect the vessels of most other parts. The difference between the portal and hepatic veins, with regard to their nervous supply, is also worthy of notice, and seems to assimilate the former still more to the arterial character. Lastly, it may be presumed, from the non-penetration of the nerves into the parenchyma of the lobules, that the function of the hepatic cells is carried on completely without the operation of nervous influence; while the absorbing action of the ultimate ducts, as they lie in the fissures and canals, is to a certain extent under the control of this power.

54, Sloane Street,
June 1848.

OUTLINES OF MEDICAL PROOF.

By Thomas Mayo, M.D. F.R.S.

Physician to the Infirmary of St. Marylebone.

[Continued from last volume.]

The task of pursuing this important subject, which I wished to place in the hands of Mr. Green, as his right by pre-occupation of the ground, has been returned by him to me. Having made a commencement of that part of the subject,* which may be considered a sequel to Mr. Green's views in his "Mental Dynamics," I am unwilling that it should be altogether dropped. It is no doubt possible that there may be intellects so highly gifted, as to thread the mazes of medical proof without any rules or assistance. Nay, it is possible, that in this, as in other pursuits, there may be intellects so constituted, as to work by a principle of natural dialectics more effectually than under cultivation. Such cases of each kind are, I believe, rare. It may with more reason be expected that time will be lost, abortive discussions engaged in, results erroneously assumed, experiments be confounded with observation, the abuse of theory mistaken for its use, and thus, vast piles of thought and inquiry be raised upon insecure foundations, if our attention should at no time be called to the specialities of our medical reasoning. And yet few will venture to assert, that this kind of inquiry had been carried out, when I propounded an essay on the Outlines of Medical Proof.

Now with respect to the filling up of these Outlines, the task may be attempted by a methodical expansion of each of the heads of the subject, or by detached essays, in which medical subjects may be contemplated in relation to the rules and principles, which I have there ventured to lay down. With respect to the first of these two ways, if great works did not exist in our language on the logic of induction and deduction, which render *my* task one of detecting specialities in our manner of proof, rather than of embracing the whole subject of proof,—If Sir John Herschel, Mr. Mill, and Dr. Whewell, had not laid out this whole subject, the more comprehensive and methodical procedure might be preferable. It might be requisite that the general inquiry should precede the peculiar one. But with these works our task is limited in extent, though it remains of undiminished importance. For I have a right to expect that the works alluded to shall have been read in the course of the preliminary mental dynamics, so ably sketched by Mr. Green. After all this has been effected, the necessity will still remain for such further considerations as I have opened in that small work, which I now propose to continue in detached essays, through the pages of the MEDICAL GAZETTE.

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* Outlines of Medical Proof, by Thos. Mayo, M.D F.R.S.

The course of reasoning pursued by me in the Outlines, in its relation to pathology and therapeutics, supposes a series of facts used collectively for the purpose of establishing, or giving probability, to certain conclusions. At least, the only exception to this view consists in my brief reference to the application of extemporaneous hypothesis to medical reasoning.* For this application may be made, and often is very effectually made, through the medium of even one well-selected and well-appreciated fact. Indeed, the consideration of facts or cases, as implying proof, when used singly, or with no reference to their aggregate effects, demands a place here, inasmuch as it illustrates one of the most distinctive qualities of the medical mind. Those who tread the safe path of practical medicine, however carefully they may bear principles in mind, act immediately from facts remembered or conjured up through an effort of the imagination, which operates upon its collected stores of reading and experience. Meanwhile, they are aware that no two (clinical) facts are alike; and herein they are distinguished from less safe and less enlightened inquirers. In their hands, indeed, the deduction from one case or fact to the other involves an hypothesis as to the nature of their agreement or disagreement, while the less cultivated or gifted person adopts his prototype whole and unbroken. His practice, accordingly, being founded on the common points, or the assumed common points, of cases, without reference to their distinctions, can never reach the idiosyncrasy of the patient, or, at all events, must reach it only by accident.

Indeed, it is not always understood what a volume of proof may be contained in the limits of a single case judiciously applied. Of this it would be easy to multiply instances. The fact of femoral and crural phlebitis having been succeeded in a given case by symptoms of cerebral disorder, no cerebral lesion being evinced on dissection, gives ample ground, in any fresh case in which such venous infarction may be detected, for the hypothesis of a functional origin of any cerebral disturbance that may arise in the course of the case. Again, a single case of well-marked cerebral symptoms, which, ending fatally, shall have exhibited pericarditic inflammation without any structural disease of the brain, will powerfully assist a diagnosis referring any future cerebral disturbance to disease of heart, when the latter is manifested during life by its appropriate symptoms.

Now, in these two cases, an explanatory hypothesis is suggested. We have seldom this advantage in reasoning from the effect of remedies; yet here a single case may be powerfully suggestive of practical measures. A gentleman, aged 70, of a powerful frame and strong constitution, who had laboured for many years under attacks of gout in the ankles and hands, with permanent thickening, nodosity, and imperfect use of the afflicted articulations, has been placed by me for more than sixteen months on a plan of daily small doses of the Vinum Colchici, with very gentle aperients. During that time his general health has become very good, and he has remained entirely free from attacks of gout. I can offer no explanation of the *modus operandi* of colchicum in this case; and the accompanying system of gentle purgation may have largely contributed to its successful procedure. Besides, his diet has been more regular than usual during its course; yet, single as it is, when viewed in relation to the known influence of colchicum on gout, it affords a motive for similar treatment in a similar case. The pulse of this gentleman, I may observe, was naturally slow: I carefully modified the dose of colchicum, so as not to depress it below its normal standard, to which depression it was prone under any increase of the doses.

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* Outlines of Medical Proof, page 20.

This use of cases is, in truth, a philosophical empiricism; and the instances which I have given strengthen the importance which I have attached on other occasions in this journal to a record of single cases. Our medical literature requires, indeed, a larger stock of single cases or monographs, not only in this empirical point of view, but as embodying the varieties of nosological generalisations, so as to afford the modifying influences of constitution, temperament, &c. by observance of which our treatment is individualized, and the idiosyncrasies of the patient receive attention. How unimpressive, and therefore uninstructive, are the "varieties" of Sauvages, stated, as they are, in the abstract! and how immediately would they be vitalized if his diagrams were changed into portraits! Meanwhile we accumulate, in our reports expections, and not examples, as if a perfect acquaintance with the latter ought not to precede an enumeration of the former.

It may be alleged, with slight show of reason, that cases expressing all these varieties would be interminable, and might mislead us out of the more philosophical road to successful practice—that, namely, which lies through general principles. I have already suggested that facts are, after all, the medium through which we apply, as well as construct, our general principles; but I may further assert, that principles can be applied through no other medium; and that all practice is resolvable into the application of a fact conceived or remembered, however large or limited may be the principle which the fact illustrates. Let him who doubts this remark test its accuracy by examining the operations of his own mind, as applied to a new case. The place assigned to it by nosology will not satisfy him; he views it by the light of his experience—in other words, he determines its pathology and treatment either in direct reference to some other cases, or with a tacit recognition of the kind of practice which a similar case has before required; and thus, while he is applying the general principles of classification, he tacitly, if not overtly, assigns to the case those specific differences which separate it from other cases of that class. A time, no doubt, arrives with most men, in which practical conclusions are arrived at with a rapidity which defies such analysis; but their character is not therefore lost, because its manifestations have become too rapid for observation. And it is expedient to give the medical mind that pabulum through well-recorded facts, which may be digested, as it were, into such conclusions. With respect to these empirical stores becoming oppressive, no apprehension need be entertained on that score. At present, for want of such records, the *normal* is but partially known; and we are constantly finding ourselves in a false position, as apparent discoverers of new facts, which are perhaps only crude expressions of what have been previously accredited and forgotten, *carent quia vate.*

The functions of single cases, which I have endeavoured to elucidate, will appear yet more important, when it is recollected that there are diseases recognized in nosology, in respect to which our knowledge is at present so far inchoate as only to exist in the shape of examples: in which no general expression of their character can be made,—no diagram can be offered; and we must be contented to recognise the disease in its portraits—that is to say, its cases. Thus, in hysteria, there is no generalization on the subject of it which advances us a step; no description of it, except such as is embodied in cases, will enable us to deal with it in practice. And I believe it remains one of the *opprobria medicinæ*, mainly because we are not sufficiently aware of that fact, and have not sufficiently enriched our records with monographs indicating its varieties. I know no work on hysteria which is so useful, because it is thus enriched by cases, as that of M. Louvet Villermay.

The fact that many practitioners make a bad use of cases, and convert their experience into a source of error, is unquestionable. A generic, instead of a specific affinity, is often accepted, as justifying the use of the precedent; nay, there are practitioners whose measures can generally be traced to the *last* case of the disease that they have seen. It is hoped that the above remarks may tend to prevent this abuse of observation, by pointing out the real value of the *ομμα της εμπειριας*.

[To be continued.]

LOCAL ANÆSTHESIA;

NOTES ON ITS ARTIFICIAL PRODUCTION BY CHLOROFORM, &C., IN THE LOWER ANIMALS AND IN MAN.

By J. Y. Simpson, M.D. F.R.S.E.
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A few months ago I published some remarks, with the object of proving that the artificial production of a state of *general* anæsthesia before the performance of surgical operations, was not altogether an idea of modern times.[*] I shewed that Pliny, Apuleius, and other early writers, aver that such a state of general anæsthesia can be produced by using mandragore; and that, in the 13th century, Theodoric had published a receipt for producing it, by the inhalation of vapours arising from the watery extracts of various narcotic herbs. In our own days, this receipt of Theodoric's, or one apparently analogous to it, has been apparently found quite sufficient for the purpose, by Dauriol.

The ancients seem also to have entertained the idea of the possibility of producing a state of *local* and limited anæsthesia in any part to be operated upon. Dioscorides, who repeatedly mentions the production of general anæsthesia by mandragore, states it, as a matter of report, that local anæsthesia in a part was capable of being produced by the application of the Memphian stone. "The Memphis stone," says he, "is found in Egypt, near Memphis, of the size of a calculus, fatty, and of different colours. They say that this, when bruised and spread over parts that are to be cut or cauterized, without danger so obtunds their sensibility that they do not feel pain."[†] (Hoc tradunt trito et illito partes quæ urendæ vel secandæ sunt citra periculum ita obstupescere, ut non sentiant cruciatum.)

Whilst we may entirely doubt that local anæsthesia was capable of being produced by such an apocryphal application as the above, the passage is curious, as evidence that the idea of obtunding a single part of the body against the pain of an operation was not unknown or unthought of in former times. Nay, many old authorities believed, that against the fire ordeal any part of the body could be so protected and defended, by previous applications, that the human hand, for instance, should not feel the contact of the red-hot iron. The writings of Eusebe Salverte and Beckmann contain ample notices on this disputed question. Upwards of half a century ago, Dr. Moore ingeniously proposed to effect a local anæsthesia of any limb that was to be operated upon by the surgeon, by previously compressing, with tourniquets and pads, the nervous trunks going to that limb; and he has left us one interesting account of a case of amputation at St. George's Hospital, in which the plan was tried, seemingly with partial success, by John Hunter.

The possible production of local anæsthesia by this or other means is certainly an object well worthy of study and attainment. Surgeons everywhere seem to be more and more acknowledging the facility, certainty, and safety, with which the state of general anæsthesia can be produced at will, before operating; as well as the moral and professional necessity of saving their patients from all unrequisite pain. But if we could by any means induce a local anæsthesia without that temporary absence of consciousness which is found in the state of general anæsthesia, many would regard it as a still greater improvement in this branch of practice. If a patient, for instance, could have his hand so obtunded that he could *see*, and yet not *feel*, the performance of amputation upon his own fingers, the practice of anæsthesia in surgery would in all likelihood advance, and progress still more rapidly than ever it has done.

In the following remarks it is my object to state the results of a number of experiments which I have performed (1), upon the lower animals[*] and (2) upon man, with a view to the possibility of the production of such a state of local anæsthesia, by the local application of chloroform and other anæsthetic agents to individual parts of the body.

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[*] Monthly Journal of Medical Science, vol. 1847-8, p. 451.

[†] Dale's Discoridis Opera, lib. v. cap. 158.

[*] Through the kindness of Professor Balfour I have had various opportunities of trying the effect of chloroform vapour upon the sensitive plant (*Mimosa Pudica*). When the vapour was

I.—*Local Anæsthesia in the lower animals.*

At a meeting of the Medico-Chirurgical Society of Edinburgh, held on the 17th of March, I took occasion to state that I had successfully chloroformed several of the lower animals—annelida, crustacea, fishes, &c.; that in some, and more especially in the common earthworm (Lumbricus Terrestris), I had been able to produce local anæsthesia by applying the chloroform vapour locally; and had thus at will rendered anæsthetic, individual parts and portions of the worm, as the head merely, or the tail merely, or the middle part of the worm merely, the head and tail remaining unaffected. At the same time I recapitulated what I had stated at one of the February meetings of the Society—that, in the human subject, local anæsthesia of a portion of the gums could be produced by rubbing the part with hydrocyanic acid. After the date of the above meeting I was led to make some additional experiments upon the possible production of local anæsthesia in man; and in reporting the proceedings of the preceding sederunt of the Society, in the last number of the Monthly Journal of Medical Science, the editor has stated, in a short foot-note, some of the results of these experiments upon the human subject.*

Nothing could be more curious or satisfactory than the experiments alluded to, on the production of local anæsthesia by the local application of chloroform vapour to different parts of the body of the earthworm. The resulting degree of local anæsthesia in the part exposed is generally in the course of two or three minutes most complete as regards both sensation and motion. In fact, after being sufficiently exposed, the chloroformed portion of the animal is quite flat and flaccid, does not move under any irritation, and can be doubled and twisted up upon itself like a piece of loose wetted cord. If the part paralysed by the chloroform is small, it will be dragged along by the movements of the other unaffected portions of the worm. It generally, in the course of a few minutes, gradually regains its powers of motion, and its irritability and contraction, under stimuli.

The easiest method of performing this experiment is to place a small quantity of chloroform in the bottom of a tumbler, paste over the mouth of it a covering of paper, and making an aperture in this covering sufficient only to admit the portion of the animal that is to be chloroformed. When held in this position, the part of the animal below the paper, and exposed to the vapour of chloroform, is generally thrown into violent movements for a minute or two before the state of anæsthesia supervenes. I have repeated the same experiments with the vapour of sulphuric ether and bisulphuret of carbon.

I have tried the same experiment, with the same result, upon the medicinal leech.

The results were, if possible, still more marked in another of the Articulata that was submitted to experiment. A small centipede (Julus Sabulosus?) was rendered completely anæsthetic and motionless in the posterior segments of the body, by exposing that part alone, for a few minutes, to the vapour of chloroform. The five or six last rings of the centipede, with the suspended and motionless feet attached to them, were for a short time afterwards dragged about in a kind of paraplegic state, and by the brisk and lively movements of the anterior and not anæsthetic portion of the animal. Betimes, however, each segment, with its corresponding feet, regained its power of motion; and this in regular order, from before backwards. In the same and in other centipedes I have produced perfect local and limited anæsthesia of the head alone, or of individual segments and portions of the body alone, by brushing these parts with liquid chloroform.

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either too strong or too long continued, the plant was destroyed. When it was weaker, and applied only for a few minutes, the leaflets in some plants closed as when irritated, and did not expand again for an unusual length of time. In other plants under exposure to the chloroform vapour, no closure of the leaflets took place, and, in a few minutes, the plant became so anæsthetised, that the mechanical or other irritation of the leaflets or stalk did not produce any of the common movements; nor did their irritability become restored for a considerable time afterwards.

* See Monthly Journal, No. xci. p. 48.

By immersing the tail of the water-newt in chloroform vapour, the sensibility and motions of that part were rapidly destroyed, and returned a few minutes afterwards. By a longer degree of immersion of the tail alone, the whole animal became anæsthetic; and in several experiments it was found possible, but difficult, to give the animal in this way a fatal dose of the vapour.

The hind-leg of the frog becomes anæsthetic when exposed for four or five minutes to the vapour of chloroform. Immediately after, it drags the limb in progressing; and bears, apparently without feeling, pricking and irritation of it; but a galvanic current passed through it excites both sensation and motion. In one case the motory power of the limb was not completely restored at the end of the third day. No effect appeared to result from keeping the hind-leg of the frog immersed in strong tincture of Indian Hemp.

The hind-leg of a healthy active rabbit was confined in a large bladder containing the vapour of chloroform. At the end of an hour, the common sensibility of the limb to pinching and squeezing was much impaired; but still, a current of galvanism, passed from side to side through it, produced crying and signs of pain. The power of moving the limb seemed unimpaired.

The hind-leg of a guinea-pig, similarly treated, exhibited the same phenomena at the end of an hour; but the anæsthesia was more complete. The skin of the leg was red and congested.

The posterior extremities and pelvis of a strong guinea-pig were enclosed in a bag containing the vapour of chloroform. At the end of an hour no signs of pain could be extracted by pinching and squeezing either limb; and a current of galvanism, passed through a hind-leg, evidently caused much less pain than when the same current was passed through a fore-leg. The whole hinder parts were very red and congested. The animal was also in some degree paraplegic; and dragged itself along, by strong efforts, with its anterior limbs.

In a late number of the GAZETTE, Mr. Nunneley, of Leeds, has published some interesting remarks on the subject of the artificial production of local anæsthesia.

Mr. Nunneley states that chloroform and other anæsthetic agents can, he believes, be applied locally to a part to produce local anæsthesia; the sensorium being unaffected, consciousness being retained, and the limbs and other parts not subjected to the action of the anæsthetic agent, retaining their usual æsthetic condition. His opinions regarding the supposed value and safety of this new mode of administering anæsthetic agents had been formed by Mr. Nunneley on the resutts of experiments. By the local application of chloroform to the limbs of frogs and toads, and the hind legs of rabbits, he had rendered these parts anæsthetic, and he obtained, (he states), similar results in the human subject, from keeping his finger immersed in anæsthetic fluids for half an hour or an hour; and in one case where the operation for artificial pupil was to be undergone, he had, (he mentions), rendered the parts nearly insensible, by applying to the eye for twenty minutes previously a small quantity of the vapour of chloroform. This naturally leads us on to the consideration of the second and most important subject—viz. the artificial production of—

II.—*Local Anæsthesia in the human subject.*

In a previous paragraph, I have already alluded to some experiments on the production of local anæsthesia in the gums, by rubbing them with prussic acid. Early in the present year I was led to make a variety of experiments on this subject, in consequence of being assured, on what I believed to be satisfactory evidence, that a dentist at Limoges, in France, M. Pernot, had the power of extracting teeth with little or no pain, in consequence of previously rubbing some obtruding agent on the gums. I tried at the time a great variety of substances in order to obtain this local anæsthesia; such as various æthers, bisulphuret of carbon, benzin, aconite, &c. Among all the agents employed, the effect of prussic acid was the most decided and complete; any part of the gum strongly rubbed by it speedily became benumbed and insensible, but the resulting degree of anæsthesia was by no means sufficient for the purpose required. The results of these experiments were stated orally to the Edinburgh Medico-Chirurgical

Society, at their meeting on the 16th February.

Before that date I had met with one instance in which local anæsthesia of the human hand had been produced in a young lady, in consequence of her accidentally holding in it for a considerable time a scent-bottle containing some chloroform. I tried at various times to produce a similar result in myself, and in others, by keeping a hand wrapped in a napkin soaked in chloroform and other anæsthetic agents, but with little or indeed no appreciable success, till I used the vapour of chloroform raised by heat; the hand, for the purpose, being immersed in a deep jar in which a small quantity of chloroform was poured, the jar placed in a basin of water, of the temperature 150° or upwards, and the wrist or forearm being at the same time surrounded by handkerchiefs, so as to prevent the escape of the vapour. In the last number of the Monthly Journal, (p. 48), these experiments are noticed; and it is correctly stated that the degree of local anæsthesia of the human hand which I have been thus able to produce, is only "partial, and perhaps superficial."

A number of circumstances influence, however, the effect and the degree of it; and as I have made a considerable variety of experiments both upon myself and upon others, in order to ascertain these points, I will shortly state the results. Let me premise, that in the experiment upon which the following results are founded, the hands of the same individual were generally held simultaneously in two different jars, differently arranged in regard to material or otherwise, in order to make two different and comparative experiments at the same time; and the relative degree of anæsthesia in each hand was ascertained during the experiment by pricking the fingers with the thumb-nail, without removing the hand from the jar; after they were removed, these and other more severe measures were used with the same view, as tests of the degree of anæsthesia.

1. When the hand is exposed to an anæsthetic vapour, especially if it is raised by heat, it betimes presents the sensations of a limb benumbed by compression of its larger nervous trunks: the sensations, in fact, of partial paralysis. Usually, after a short time, a glowing or burning feeling is perceived in the parts most exposed, and gradually there supervenes a sensation of thrilling and tingling (like a limb asleep), which deepens more and more. The skin becomes red, and the hand at last feels stiff and clumsy, and as if enlarged; and painful impressions, as pricking, pinching, &c., are felt less acutely. After the hand is removed from the vapour, it is generally half an hour or more before its usual feelings are restored. The nerves of motion are usually, apparently, as much affected as the nerves of sensation.

2. The vapour of chloroform proved stronger than any other that was tried. When one hand, for instance, was immersed in a jar containing the vapour of sulphuric ether, and the other hand in a jar containing the vapour of chloroform, (both jars containing similar quantities, and subjected to the same degree of heat), the hand in the chloroform jar was both more speedily and more deeply affected than the other. In addition to the vapour of chloroform and ether, I tried comparative experiments with the vapours of aldehyde, bisulphuret of carbon, iodide of methyle, &c. The aldehyde had little or no effect of any kind. The iodide of methyle produced a very severe burning sensation, and left the hand intensely red for a day or two afterwards, but with no marked anæsthetic influence. Among several of us that tried the vapour of bisulphuret of carbon, only one bore it for any great length of time, (about an hour), and in him it did not render the hand anæsthetic in any very appreciable degree; in myself and others, the sensation of heat and burning soon became so utterly intolerable, as to force us to withdraw the hand. Immersion of the hand for half an hour in very strong tinctures of aconite, opium, and Indian hemp, and in solution of belladonna, produced no very appreciable local anæsthetic effect.

3. The anæsthetic effect is increased both in rapidity and in degree by immersing the hand with the cuticle softened and moist. When one hand, for instance, is immersed without any preparation, and the other is prepared by being bathed and fomented for ten or twenty minutes previously, the limb almost immediately begins to tingle

under exposure to the vapour—the dry hand not for some minutes. The degree of anæsthesia is also ultimately deeper in the moistened hand. Immersion of the hand in warm water alone for ten or fifteen minutes produces a very marked degree of local anæsthesia in it. Exposure of it in the same way to ice-cold water leads to the same result, but is too painful to be long borne.

4. The hand, when plunged in liquid chloroform, is usually somewhat more deeply apathized than the other hand simultaneously held in the vapour of chloroform. This was the more general result with those who tried the experiment; but in some the chloroform vapour was as anæsthetic, or more so, than the liquid. Few persons can keep the hand for any adequate length of time in liquid chloroform; the sensation of burning becomes so intense and painful, as to force them to withdraw it in a very few minutes. On one occasion, I held my hand for upwards of an hour in liquid chloroform, without the part being more apathized than it would have been by exposure to the vapour. One of my pupils, Mr. Adam, held his hand in the liquid chloroform for upwards of two hours: no great degree of local anæsthesia resulted. In those cases in which the hand was long steeped in liquid chloroform, the sensations of burning returned severely from time to time, as if in wares, during the experiment; and on removing it from the jar, the feelings of heat were temporarily aggravated. The normal sensibility of the parts speedily returned, and were completely restored within a few minutes in all. But the skin sometimes remained red and injected for a longer period.

5. The degree of delicacy of skin in the person or part exposed to the anæsthetic vapour influences the result. In females I have seen the degree of local anæsthesia of the hand that was produced much greater and deeper than I could ever render it in the male subject. In applying the chloroform vapour in small cupping glasses, &c. to different parts of the body, as the insides of the arms, &c., the resulting degree of local anæsthesia seemed in a great measure regulated by the tenuity of the skin of the part experimented upon. The skin of the axilla seems too tender to allow of the vapour being applied for a length of time sufficient to produce anæsthesia. One of my students, who kept both his lower extremities enveloped in strong chloroform vapour raised by heat, for three continuous hours, felt no appreciable local anæsthetic effect from it.

6. When strong chloroform vapour is locally applied to mucous surfaces, the attendant sensations of heat and smarting are too severe to allow of its sufficient continuance: at least, this is the result that I have obtained in applying it with small glasses to the insides of the lips, the tongue, and eye. Mr. Nunneley states, as we have already mentioned, that before operating on a difficult case of artificial pupil, he had applied for twenty minutes a small quantity of the vapour of chloroform to the eye by means of a small jar which accurately filled the orbit, with the effect of rendering the parts nearly insensible. Dr. Duncan and I have several times tried to repeat this experiment upon ourselves, but in none of the trials which we made (with the eye either shut or open), could we endure the burning action of the vapour upon the part above two or three minutes; and we found no other result except always rendering the eye experimented on red and injected, and suffused with tears.*

7. The degree of anæsthesia produced in a limb by exposure of it to the strong vapour of chloroform, does not, in general, perceptibly increase

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* I have tried the application of various anæsthetic gases and vapours to the vagina, in cases of vaginal irritation and neuralgia; but hitherto without much success. The stronger forms cannot be borne. I was induced to try them in consequence of the following curious statement regarding carbonic acid, published by Pereira, (Materia Medica, p. 155):—

"A lady, who had suffered for a considerable time from some uterine affection, and had derived no relief from the treatment adopted, was advised to consult a physician in Italy (Dr. Rossi). After he had examined the condition of the uterus, he assured her that there was no organic disease, but merely a considerable degree of irritation, for which he proposed to apply carbonic acid as at sedative. This was done by means of a pipe and tube, communicating with a gasometer situated in another room. The patient obtained immediate relief, and although she was obliged to be carried to the doctor's house, on account of the pain experienced in walking, she left it in perfect ease. On her return to England she had a relapse of the complaint, and applied to Dr. Clutterbuck to know whether she could have the same remedy applied in London, in order to save her the necessity of returning to Italy."

after fifteen or twenty minutes. The same sensations continue if the hand is still retained in the jar; but an increased length of exposure does not, after a time, produce a corresponding degree of local insensibility.

But the degree of local anæsthesia produced in the human hand or skin by exposing it to the local action of the vapour of chloroform, has never, in my experiments, been by any means so perfect and complete as to annul the pain of any severe operation, such as deep incisions or amputation of a finger. As compared with the other non-exposed hand, the chloroformed hand is generally rendered to a marked amount *less* sensitive; but the insensibility is never, I fear, so deep and perfect as will save the patient from the pain of the surgeon's knife. In short, I entirely doubt whether in the human subject we shall ever be able to reduce the knowledge of the possible reduction of local anæsthesia to any practical purpose. It is principally interesting in a toxicological and physiological point of view, and in relation to the mode of action of anæsthetic agents.[*] Its bearings are more upon the theory than upon the practice of anæsthesia.

These remarks relate necessarily to local anæsthesia as capable of being produced by the anæsthetic agents with which we are at present acquainted. Others may, no doubt, yet be detected much more powerful than any we at present know, and their local application may enable us to effect the local anæsthesia desired. At the same time, this consummation, even, seems doubtful; for perhaps any agent possessing a deeper and more rapid anæsthetic local power, would, by absorption, affect the system generally, it may be dangerously, before complete local insensibility of a part could be effected. Some time ago, in attempting to produce local anæsthesia in my hand by exposing it to the vapour of hydrocyanic acid, ere the hand was much or very perceptibly benumbed, I began to feel the constitutional effects of the poison: my respiration became irregular, and I felt giddy and faint, when my assistant removed my hand from the jar. All due care was taken to prevent me breathing any of the vapour, and I sat during the experiment in a current of air. I felt the benumbing influence of the acid extending from the hand upwards along the arm a minute or two before the experiment was stopped.

I have tried the long immersion of the hand in various gases, as carbonic acid and common coal gas (both of them powerful *general* anæsthetics when inhaled), without any effect. Chaptal, however, alleges that he had felt the limbs plunged in carbonic acid much benumbed; and Collard de Martigny found, that, when the general surface of his body was immersed in carbonic acid (arrangements being made that none of it was breathed), giddiness, ringing in the ears, and the other symptoms produced by the action of this gas, supervened in eight or ten minutes, proving that it was absorbed. Davy felt the premonitory exhilaration of nitrous oxide gas by exposing the surface of his body to it in the same way.

Chaussier inclosed the leg of a dog in a bag containing sulphuretted hydrogen, and found that he could in this way in a few minutes induce the poisonous effects of the gas; and similar experiments were repeated by Lebkuchner and Nysten, and my friend Dr. Madden, on the rabbit, &c., with similar results. I have held my hand enclosed in a bag filled with the constantly renewed vapour of sulphuretted hydrogen for above half an hour, without feeling any local effects.

The facts which I have stated seem, in the present state of our knowledge, to point to the following

Conclusions.

1. In animals belonging to the class Articulata, complete local and limited anæsthesia can be produced by the local and limited application of the vapour of chloroform to individual parts of the body of the animal.

2. In batrachian reptiles, the tail

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[*] Perhaps we will be less surprised at the difference in the degree of local anæsthesia capable of being produced in the lower animals, as compared with man, when we recollect the difference that exists between the structure and functions of their skins and that of the human subject. "In animals whose skin is moist, and which possess a very delicate cuticle, cutaneous absorption is a constant and important function. Such are frogs, salamanders, and similar animals. The experiments of Edwards have established the skin in them to be entirely absorbing, and instrumental in their support." (See Jackson on Absorption, in American Cyclopædia of Practical Medicine, No. II. p. 115).

or an individual limb can be affected in the same way with local anæsthesia; but, in addition, general anæsthesia of the animals usually results in a short time, by the action of the chloroform absorbed through the exposed part.

3. In the smaller mammalia, a single limb, or even the lower or pelvic half of the body, can be rendered anæsthetic by local exposure of these parts to the influence of chloroform.

4. In the human subject, local anæsthesia of a part, as the hand, can be produced by exposing it to the strong vapour of chloroform; but the resulting degree of this local anæsthesia is not sufficiently deep to allow the part to be cut or operated upon without pain.

5. Any agent possessing a stronger local benumbing or anæsthetic influence would probably be dangerous, by its acting on the general economy before the local anæsthesia was established to a depth sufficient for operating.

6. Artificial local anæsthesia from any known anæsthetic agents seems objectionable in any part intended to be operated upon, in consequence of the vascular congestion and injection which attend upon and result from this local anæsthesia.

7. There are few operations in which there is not previously a broken surface, and the application of chloroform, &c., to such a surface would be far too severe to be endured; their application to the unbroken healthy skin being usually attended with considerable pain.

THE CORNEA NOT CONCERNED IN ADAPTING THE EYE TO VISION AT DIFFERENT DISTANCES.

The increased convexity of the cornea, which was said to be one of the important changes effected by compression of the eye, and on the occurrence of which its power of adaptation to the perception of near objects was supposed to depend, could not be detected by Hueck. He attentively watched the cornea while the sight was changed from an object thirty feet distant from the eye, to one only seven inches distant, but beyond the movements resulting from respiration and from the pressure of the orbicularis muscle, he could not perceive any change in the cornea; no protrusion, and no sinking. This agrees with the observations of Dr. Young, who also was unable to perceive any such change as was said by Sir E. Home and others to take place.—*Baly and Kirkes's Recent Advances in Physiology.*

MEDICAL GAZETTE.

FRIDAY, JULY 14, 1848.

We elsewhere report two cases of death from the inhalation of chloroform vapour,[*] the one having occurred in the United States, and the other quite recently in this country. The unfortunate case of Mr. Badger is sufficient to shew that even they who are most experienced in the use of this agent, are not always able to discriminate those cases in which the inhalation of the vapour is likely to be attended with fatal effects. The deceased was a healthy muscular young man, who, according to the testimony of his father, had suffered from no difficulty of breathing, or any other apparent disease. The inspection of the body, however, revealed a diseased state of the heart and liver, although not sufficient to account for sudden death. Hence we arrive at the conclusion that a young and healthy-looking person, whose appearance and previous habits of life would create no suspicion of the existence of latent organic disease, may still be in such a condition of body that the respiration of the vapour will operate upon him like a fatal poison. It is not here as with a liquid or solid taken into the stomach,—the poison enters at once into the circulation, and penetrates through the whole of the system; and but a few minutes elapse between apparently perfect health and the death of the patient. The circumstances under which the poison is administered, do not, in these unfavourable cases, admit of the application of any remedy. The attempt to abstract blood has uniformly failed.[†] Art is powerless in dealing with the poisonous effects of this vapour. It may be said, and we doubt not the truth of the statement, that hundreds, nay thousands of persons, young and healthy-looking like the deceased, have inhaled this vapour without any such disastrous effects following. We have, however, heard of some very narrow escapes, even where precaution and skill of the best kind had been employed in its administration; and doubtless the experience of many of our readers will furnish them with cases corroborative of this remark. But the death of only one person in a thousand, when the vapour has been skilfully administered—and there was nothing in the patient's aspect or account of himself to induce the operator to withhold his consent to its employment—becomes a most serious matter. There should be some extraordinary advantage or benefit to the individual to justify such a fearful risk; but the advantage, if any, in reference to the dental art, is the alleviation of pain merely for a few minutes; and the naked question now to be considered is, will any operator feel himself justified, after the case of Mr. Badger, in employing this dangerous vapour for the annulling of pain in the extraction of teeth? If latent disease of the heart or liver could always be clearly diagnosed in a patient, we should not be called upon to put this question: but as Mr. Badger's case proves that a most experienced man like Mr. Robinson saw nothing about the deceased to justify his refusal to employ chloroform, it is clear that the most skilful dentist may be working in the dark, and thus unconsciously be the means of sacrificing life for the sake of humouring a patient by annulling a degree of pain which every healthy adult should be able to bear. The facts of this case have, however, a bearing far beyond dentistry. We consider that our remarks apply to all the minor operations of surgery; and judging by an extract of a letter elsewhere inserted,* Dr. Meigs, a transatlantic physician of some repute, holds a similar opinion in respect to the use of chloroform in obstetric practice.

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[*] Pages 77 and 79.

[†] See the cases reported by Dr. Meggison and Dr. Jameson, in our last volume, p. 250 and p. 318.

We have been arguing the question as if the deceased had died from the effects of chloroform vapour. We think, indeed, that the facts speak for themselves, and justify the verdict of the jury. There was no asphyxia here; it could not be supposed that the deceased died from the effects of treatment, as it has been suggested in other cases; nor can it be insinuated that the chloroform was administered in an improper dose, or in an improper manner. To attribute unskilfulness to Mr. Robinson, would be unwarrantable; in his evidence he states that he has administered the vapour in at least three thousand cases, so that the advocates, if there be any, of the perfect harmlessness of chloroform vapour, must fall back upon the hypothesis of death from natural causes occurring at the time by a sort of special coincidence. We do not believe, however, that this view will be seriously adopted. It will not benefit the ultra-chloroformists; while the public and the unbiassed portion of the profession will be led to think, that on all these occasions of fatal effects following its use, there is a desire to conceal or distort the facts, so that alarm may not be created.

It appears from the evidence, that Mr. Robinson employed on this occasion one drachm and a half of chloroform: this is about the usual dose. The inhaler was not held close to the mouth or face, and deceased had not inhaled more than a minute, when it appeared to have produced so slight an effect, that he requested to have the vapour made stronger. Before this could be done, however, the head and hand of the deceased dropped — *i. e.* in one second after he had spoken to the operator. A period of about *five minutes* elapsed from the time at which the deceased entered the surgery to his death.[*] When seen by Dr. Waters immediately afterwards, the face was livid, the pupils were dilated, and the temperature of the body was lower than natural. There was general congestion of the membranes of the brain, and of the surface of the corpora striata and optic thalami. "The lungs presented a little sign of congestion." These are the chief appearances indicative of the action of chloroform. The great difference in this and the two other cases to which we have referred, consists in the lungs being much less congested. The fatal effects of the vapour, however, came on quite suddenly in the case of Mr. Badger, but more slowly in the cases reported by Dr. Meggison and Dr. Jameson. This may perhaps account for the discovery of a smaller amount of congestion in the lungs. On the other hand, the liver was much enlarged, and the heart diseased; but the morbid state of these organs was not such as to explain the sudden death, under the circumstances, irrespective of the action of chloroform vapour. We consider it to be an irresistible inference from the facts of the case, that but for the use of chloroform the deceased might now have been living; while, on the other hand, it is highly probable that, but for the existence of disease in the heart and liver, the chloroform vapour would not have proved fatal. With these admissions there can, we apprehend, be no doubt that the inhalation of the vapour was the immediate cause of death.

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* Page 85.

The most startling features of this case are, that a person may very suddenly die from the effects of the vapour, without the occurrence of any one warning symptom to indicate the near approach of death; and that the vapour will prove fatal in cases which may appear to be perfectly favourable to its administration.[*] Mr. Wakley, the coroner, very justly remarked, in his summing up at the inquest, that—"The appearance of perfect health displayed by this gentleman, and the youthful glow which brightened his countenance, were well calculated to lull any suspicion that there existed the great amount of derangement of structure which had been described by the medical witnesses." This remark should be borne in mind by all who may hereafter employ chloroform vapour in minor surgical operations. It is obviously not always in the power of the operator to judge from the aspect of a patient whether he may or may not safely use the vapour; and if among a thousand patients who inhale it only one should die, it is really a serious question whether the risk can justify the transient benefit derived from the state of anæsthesia. Every practitioner, before resorting to its employment hereafter, should, we consider, put to himself the question proposed by Dr. Meigs—"What sufficient motive have I to risk the life or the death of one in a thousand in a questionable attempt to abrogate one of the general conditions of man?"

Since these remarks were written, we have introduced into our columns two other cases of the alleged fatal action of chloroform.* The case which occurred in France strongly confirms the opinion which we have expressed, that it is unadvisable to employ this agent in minor surgical operations.

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[*] In Greener's case a drachm of chloroform was used, and the death of the patient took place in three minutes. See our last volume, p. 251.

[*] Mr. Robinson advised the deceased not to take the vapour, as the dental operation would occupy but a short time. It does not appear that this advice was given from any doubt in the operator's mind that chloroform could not be safely administered, or it is quite certain that a man of Mr. Robinson's experience and professional knowledge would not have yielded to the caprice of a patient.

We regret to find, from the reports in the foreign journals, that the Asiatic cholera is rapidly extending through the southern and western parts of Russia. It is now prevalent throughout Moldavia and Wallachia. At Galatz, the population of which is estimated at 40,000, it appears that there have been since February 746 cases and 237 deaths. In Moscow the disease has again broken out with redoubled virulence, and appears to set at defiance all kinds of medical treatment. In two days there were 222 cases, and more than one-half had proved fatal. The fact of most interest to us in reference to its progress westward, is its appearance at St. Petersburgh. This had been frequently rumoured during the early part of the spring, but the intelligence is now confirmed; and it would appear that the fatality of the disease has even been greater than in Moscow. Up to the 24th June there had occurred in the Russian capital no less than one thousand cases, of which more than one-half had proved fatal. As in 1831-2, the malady may continue to extend to the maritime ports of the Baltic, and so across the German ocean to our own shores.

ROYAL COLLEGE OF SURGEONS.

Gentlemen admitted Members on the 30th ult.:—B. W. Browne.—A. Harris.—A. Brown.—H. Swift.—T. R. Armitage.—J. S. Burton.—J. Dix.—C. Miles.—B. Buck.—M. P. S. Ward.

Gentlemen admitted Members on the 7th inst.—Messrs. Parfitt—J. Rhodes—T. Taaffr—T. M. D. Davidson—P. Wright—L. Parnell—A. Butler—J. Lawrence.

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* See pages 76 and 84.

Reviews.

Clinical Observations on the Pathology and Treatment of Continued Fever: from cases occurring in the Medical Practice of St. Bartholomew's Hospital. By Ed. L. Ormerod, M.B. Demonstrator of Morbid Anatomy at St. Bartholomew's Hospital. pp. 244. London: Longman and Co., 1848.

Not long since* we had the opportunity of expressing a favourable opinion of a valuable contribution on the subject of clinical surgery, by Mr. Ormerod; and we have now to introduce to our readers a work on clinical medicine by the brother of that gentleman. Both authors appear to have manifested an equally laudable zeal, in extensively availing themselves of the advantages afforded by a large metropolitan hospital, of studying disease in its various phases. In this study they have proceeded on the only sure plan of collecting sound and available information in regard to the nature and treatment of disease — that, namely, of steadily watching, and carefully recording, the progress of cases. The results of such a method of observation on a particular class of diseases—that of continued fever—are furnished by Dr. Ormerod in the work now before us. This consists of a number of carefully-narrated cases, judiciously arranged, and interspersed with remarks on the more prominent features offered by each. As stated by the author in his preface, several of these cases have already appeared in a weekly periodical; but they are now re-published in a more connected form, and with additional observations.

In the Preliminary Remarks we meet with the following points, which are worthy of quotation from the relation they bear to the frequently-disputed question whether more than one actually different disease is not included under the general term fever:—

> "1. The type of an epidemic, being of course that of the majority, is general, not universal; and among the exceptional cases occurring in any one year may be found illustrations of the most varied types of fever, such as may present themselves as the ordinary form during other years. 2. But

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* Med. Gaz. vol. xxxviii. p. 76 and 84.

> these varieties cannot always reproduce themselves; for of several members of a family living under the same circumstances and affected with fever, all have not by any means invariably the same form of the disease, nor, when it spreads in a ward from one patient to another, is the like disease always reproduced. 3. And the distinctions between these forms seem to rest on no sure foundations; for even the important distinction, to limit ourselves to one instance, as to whether Peyer's glands are affected or not, gives no available grounds during life for any classification. In the midst of an epidemic generally characterised by such lesions, cases are met with where the intestines are quite healthy, and conversely; and the symptoms which divide these cases, which enable us to predict the presence or absence of such lesions, are merely incidental." (p. 2.)

The conclusion which may be drawn from these remarks, and from subsequent observations, is, that although differing in detail, the several varieties of fever have, in the opinion of the author, a close identity; the common features of resemblance being found, not in the local affections, but in the peculiar disturbance of the system generally. Consequently, we find the author discussing his subject in two parts — the essential fever and its secondary local affections. The first division is very briefly considered: it comprises some carefully-written remarks on the morbid poison of fever, with the particulars of one or two interesting cases illustrative of the mysterious rapidity and force with which this subtle agent will seize upon the mainsprings of life, and in a brief space of time produce complete prostration, followed either by speedy death or almost equally speedy recovery. In such cases the whole influence of the poison seems to be exerted upon the system at large, and is not characterised by the implication of any particular organ or system of organs, except, perhaps, the nervous system.

The various complications by which the essential part of fever is usually to a greater or less degree accompanied, are entered into at considerable length by the author. Of these complications, affections of the Brain are the most obscure and the least understood, the symptoms being indefinite during life, mixed up with those depending upon the condition of the system produced by the specific influence of the disease itself, and rarely accompanied by organic lesions of the brain discoverable by dissection. Affection of the brain in fever seems almost exclusively connected with the essential nature of the epidemic; while affection of the Lungs, which is the next complication considered, appears to be in great measure influenced by the season of the year, and by external temperature, being most common and severe in the early part of the year, subsiding during the summer, and reappearing with the colder months. The pulmonary affection in nearly all such cases is pneumonia, or rather, as the author believes, a condition of the tissue of the lung, probably intermediate between pneumonia and bronchitis, not exactly referable to either: and hence, in individual cases, presenting characters sometimes more like one, sometimes more like the other of these affections. A still more common form of complication in fever is that afforded by affection of the Bowels, which consists in the well-known peculiar inflammatory affection of the mucous membrane of the lower part of the small intestine, accompanied with more or less extensive sloughing and consequent ulceration of the patches of Peyer's glands. The morbid anatomy of the intestinal canal in this affection is described with much care by the author. Following this, we have some account of the affection of the spleen and liver, and the changes of the blood in fever: and then a general summary of the cases, with a brief description of the form of fever which prevailed in 1847, and which the author describes as being "of short duration, but very liable to relapse, and contagious in an extremely slight degree, presenting, in the majority of cases, an eruption of miliary vesicles; the mortality was also very small, and the subjects of the disease were for the most part Irish, newly arrived in London."

We have given but few extracts from this work; indeed, its very nature, consisting almost entirely of the details of cases, with observations suggested by them, almost precludes the possibility of doing so. The cases themselves, with the accompanying remarks, must be carefully read, and attentively studied, to be properly appreciated; and we may safely assert, that in the perusal of them, the student will be furnished with a valuable guide in his study of Continued Fever, while the practitioner will probably derive many useful practical hints in the management of this disease. Occasionally we have been a little puzzled respecting the true meaning of a passage, by the studied accuracy and formal correctness of the author's style of composition; but, on the whole, this is a trivial fault, and it does not materially detract from the practical utility of the work.

Proceedings of Societies.

ROYAL MEDICAL & CHIRURGICAL SOCIETY.

J. M. ARNOTT, ESQ., F.R.S., PRESIDENT.

June 27, 1848.

Observations on "Ochlesis," or the Disorder generated by the Accumulation of the Sick. By GEORGE GREGORY, M.D., Physician to the Small-pox and Vaccination Hospital.

THE object of this communication is to give a brief sketch of the evils which result from the accumulation of a vast number of sick persons under one roof. The author designates the general condition of disease produced under these circumstances by the term "ochlesis," derived from οχλος, a crowd. The normal type of the disorder is erysipelas of the face; but there is a vast number of allied affections which appear at different times with it, either separately or in combination. These are, erysipelas of the extremities, especially affecting wounds or sores; trails of erythematous redness, following the course of the chief absorbent trunks, and terminating in abscesses; cellular inflammation of the lower limbs, or phlegmasia dolens; cellular inflammation of the neck, leading to abscess, cynanche, otitis, glossitis; inflammation of the joints, terminating in purulent effusion; spontaneous gangrene of the genitals and of the extremities; gangrene supervening upon wounds or sores; spontaneous gangrene of some portion of the trunk of the body, especially in new-born children; gangrene of the umbilicus. Instances of pure fever, of a low type, from the same source, are not uncommon. Diarrhœa sometimes is the result, from the mucous membrane of the bowels becoming affected; and in the wards of lying-in hospitals, the "ochletic" miasm expends all its virulence on the peritoneum. The author has seen an asthenic form of laryngitis produced by the same cause, and believes that the pneumonia which springs up in hospitals has likewise its source in the contagious ochletic miasm. This miasm, too, he thinks, produces the excessive depression which attends the worst cases of sea scurvy, and he has seen it occasion, in the Small-pox Hospital, a state resembling, in all respects, scurvy itself. All the disorders originating in the ochletic miasm are characterised by a low condition of the vis vitæ, and intractability. The experience of the Small-pox Hospital during many epidemic visitations, especially in the years 1842, 1844, 1847, and 1848, has convinced the author of the fact that all the diseases which he has enumerated may arise from the same miasm. Contagious peritonitis is perhaps the only form of the ochletic malady that he has not seen at that hospital during the last twenty-five years; but he regards it as quite certain that this is "part and parcel" of the same disease. The chief agent in the production of ochlesis is, certainly, the crowding together of the sick in one spot; but matters are made much worse by unfavourable locality, by dampness of the surrounding soil, imperfect drainage, or choked sewers, by deficient ventilation, by the character of the cases congregated, by neglect of personal cleanliness, by the employment of unpurified bedding, and by inefficient purification of the wards. Since, however, the ochletic miasm is evolved only at certain times, a peculiar but unknown condition of the atmosphere must concur towards the actual result. The ochletic miasm appears to attach itself strongly to the walls and floor of the apartment: hence the use of covering the floor with a mixture of quick-lime and water, of lime-whiting the walls, of fumigating with nitric acid or chlorine, &c. The great means of checking the development of ochlesis, however, is to restrict the admission of patients, and to leave the infected ward unoccupied for a certain time.

On the Minute Anatomy of the Emphysematous Lung. By G. RAINEY, M.R.C.S., Demonstrator of Anatomy at St. Thomas's Hospital.

The author first describes the minute anatomy of the pulmonary tissue in the healthy state. He then gives an account of the microscopic examination of portions of lung which were in the state of ordinary vesicular emphysema. The first change which attracted his attention was the perforated or cribriform state of portions of the lining membrane of the air-cells. He next observed that the membrane in the vicinity of these perforations, as well as in many parts which had not yet become cribriform, was studded with minute portions of oil, the membrane itself being thinner at these points. He supposes, therefore, that the conversion of the nutritive material of the pulmonary membrane into oil induces a weakened condition of the membrane, and renders it unable to support the capillary plexuses, and to resist the pressure of the air in the air-cells, and that the perforations already mentioned are the consequence. Other changes follow. The meshes of the capillary network become wider, and the capillaries themselves smaller. Several cells become broken up into one cavity. Fragments of the lacerated cell-walls are then seen containing extremely elongated and contracted capillaries, with very large and generally very long areolar spaces. When the cavity has become very large, the air-cells which were broken up to form it have in a great measure disappeared, and its sides are held together merely by fibrous bands composed of the remains of small bronchial tubes and of condensed interlobular cellular tissue. When such a cavity is situated near the surface of the lung, the pleura and subserous tissue become thickened. The disease is regarded by the author as an instance of "fatty degeneration."

Dr. Copland, who had entered the room after the reading of the paper, said that he could gather sufficient from its conclusion to know its purport and intention. He quite agreed with the author as to the evils produced by crowded and ill-ventilated rooms. When he was attached to the Lying-in Hospital, fever of a most fatal kind prevailed from bad air and the vitiated secretions of the patients. So fatal was this disease, that it often runs its course in twenty-four, and sometimes even in eighteen hours. The morbid emanations from an atmosphere so tainted, spread to the walls, floor, &c., and the evil was further increased by washing the floors. He had found the best antidote to the poison was dry-scrubbing the floors, and sprinkling them freely with chloride of lime. Another mode in which disease was propagated, was through the feather-beds becoming surcharged with morbid matter. These beds were frequently not cleaned for twenty or thirty years, and the emanations from them were the cause of sporadic cases of low and puerperal fevers. Again, the way in which houses were at present built favoured the spread of disease; for the contents of the water-closets were not carried off the premises, but into a cesspool under the kitchen-floor; fever of a bad kind was thus periodically produced. He should not enlarge upon the subject, but he had gone fully into it in the article in his Dictionary, under the head of "Domestic Sources of Pestilence." In answer to a question from Dr. Gregory, Dr. Copland said, that since the hospital he had alluded to had been better ventilated, &c., disease had been much less prevalent, only an occasional sporadic case of peritonitis assuming asthethe nic form.

Dr. Chambers agreed with Dr. Copland in regard to the ill effects of ill-ventilated and crowded wards; but this was not the sole cause of the spread of disease, for in many cases it was propagated by contagion. He instanced cases of phlegmonous erysipelas and puerperal peritonitis, arising, in the first instance, from crowded and ill-ventilated rooms, but propagated afterwards by contagion.

Dr. Copland was fully aware of similar cases to those mentioned by the last speaker.

Mr. Arnott mentioned the value of dry-rubbing the floors in hospitals to prevent the spread of disease, and instanced the case of the Manchester Infirmary, in which, previous to the system of dry-rubbing being resorted to, erysipelas of the operations was of very frequent occurrence. Now, under the influence of dry-rubbing, erysipelas was nearly extinct.

Dr. Copland said scrofula and swelled glands was a very common disease in the wards of St. Marylebone workhouse, until he recommended the employment of dry-rubbing, since which these complaints had very much diminished in frequency.

Dr. Webster alluded to the case of a house in Glasgow, containing 350 or 400 inhabitants. It was badly ventilated, and fever of a malignant character was constantly occurring. A system of ventilation was afterwards adopted: a pipe communicating from each room, with a large common chimney, was constructed, and fever did not again occur.

Dr. R. Chambers could bear testimony to the value of dry-rubbing in the wards of an hospital as a preventive of disease.

Mr. Partridge said, that however striking the good effects of dry-rubbing were in the wards of the Manchester Infirmary, they were no less beneficial in the hospital at Birmingham. In this hospital, under the system of washing the floors, erysipelas after operations was exceedingly common. Dry-rubbing was resorted to, and the erysipelas disappeared. The wards were again washed, erysipelas again returned, and was only eventually got rid of by a return to the wholesome system of dry-rubbing.

Mr. Sankey did not ascribe the decrease of cases of erysipelas in hospitals entirely to the system of dry-rubbing. He mentioned, that in the fever hospital to which he was attached, erysipelas, which was remarkably prevalent at a given period, became less and less general, without any obvious cause. On referring to the lists of the registrar-general, he found that the prevalence and diminution alluded to bore a direct ratio to the state of the disease throughout the entire of the metropolis. This fact shewed that some other causes for the prevalence of a disease in an hospital, besides bad ventilation and washing the floors, must exist; for in the fever hospital these two causes were not in operation; neither did he think that diseases like erysipelas and phlebitis were more prevalent in hospitals than out of them, for he had admitted many.

Cases illustrative of some consequences of Local Injury. By THOMAS HODGKIN, M.D.

The cases detailed are divided into two groups: the one, in which the effects had more or less the character of common inflammation; the other, distinguished by the production of an adventitious structure having the character of malignant disease. The following is an outline of the first of three cases included in the former group:—

R. M——, about forty-five years of age, an active man of business, of spare habit, but enjoying nearly uninterrupted health, had, rather more than two months before his death, fallen upon the edge of the kerbstone, in one of the streets of London, but was not sensible of having received much injury. About six or seven weeks afterwards he was exposed to wet and cold, after being heated and fatigued. In the evening he was chilly and distressed, and felt severe pain in the right side. He went out the next day, and was again exposed to wet and cold, but after this was confined to the house. A blister was applied to the seat of pain, and aperients and effervescing salines were given. He complained no more of pain in the side, but remained feverish and weak. Two half-glasses of claret produced a most disproportionate mental excitement, which returned in paroxysms. In a day or two after this he passed into a state of coma, with very rapid, feeble pulse. Ammonia was given. He revived, and complained transiently of a little pain in the left arm and leg. A small induration was found near the calf of the leg: this slowly increased, and the day before his death caused considerable pain. After the mental disturbance had passed off, his head was generally hot, and his face for some time rather flushed; the expression of his countenance generally quite composed; the breathing quick, but easy, with a little stertor during sleep or somnolence; the tongue was moist, with a white fur on its surface; the pulse generally numbered 120; vomiting occurred twice or three times before death. A short time before death small pustules or maturating vesicles were noticed on the body and limbs.

On the examination of the body, a small subcutaneous collection of pus was found near the head of the right fibula. A larger tumor at the upper part of the left calf was not opened. Nothing remarkable was found within the cranium, except that in the cortical substance of the brain, at one particular spot, there seemed to be an evident but very partial softening, by which the separation of the external layer of the cortical substance from the subjacent layer was favoured. The right pleura presented marks of recent inflammation near its lower part, and over the fifth or sixth rib, from its anterior extremity to its angle, was elevated by rounded purulent deposits of various sizes. The corresponding part of the pulmonary pleura presented similar purulent deposits, and the adjoining part of the lung was in a state of recent hepatization. The muscular structures on the exterior of the same rib were found sprinkled with similar, but smaller purulent deposits. The left pleura and lung, and the heart, were healthy. In the abdomen, the only remarkable appearances were numerous scattered depressions in the mucous membrane of the stomach, probably the enlarged orifices of follicles, marks of severe inflammation of the mucous membrane of the large intestine, from the middle of the arch of the colon to the rectum, and the presence of a small quantity of semi-transparent lymph between the convolutions of the intestines—between the middle and lower parts of the abdomen. Of the second class of cases seven examples are given. The author, in his remarks, first directs attention to the peculiarities of the former class of cases; the slight primary effects of the local injury, and the anomalous character of the secondary effects; the disturbance of the mental faculties in two of the cases; the constitutional disturbance, exciting the suspicion that the brain, heart, or some important part of the alimentary canal, was in a state of acute inflammation; and in two cases, the severity and rapidity of the symptoms, which were nearly as great as in cases of dissection and other poisoned wounds. He expresses the opinion, that these symptoms were due to a morbid poison being generated in the system—an opinion favoured by the occurrence of vesicles, with puriform contents, on the surface of the body. To explain the formation of this morbid poison, he supposes that the immediate effect of the local injury is so to impair a portion of the animal tissue, as to render it incapable of the proper maintenance of those molecular changes by which interstitial absorption and deposition are carried on; that the changes which take place in dead animal matter proceed in the injured part very slowly, and during health produce no inconvenience; but that if a febrile state of the body be set up by cold or other cause, the morbid influence of the part in which these chemical changes are going on, produces inflammation or derangement of a more specific kind in the surrounding tissues, and the further producton of a like cause of irritation in the system generally. In one case a remarkable odour of malt or saccharine matter was observed. This the author regards as an almost certain omen of death. In the second group of cases, instead of the vitality of the injured part being reduced, the most striking phenomenon is the production of a new growth, to which vital organization is essential. All living parts, whether old or new, are nourished from living material, and every living cell is produced from a previous cell. In these cases the injury does not destroy life, but only modifies the nutrition of the part, by exerting an influence on small molecules. The result is, that the new cells formed there are modified, from being, as it were, incubated in a peculiar *nidus*. When once the production of morbid corpuscles, suited to the production of a morbid tissue, has taken place, the growth of such structure at the affected part may also be made the subject of ocular demonstration; but the subsequent appearance of a similar structure in other parts of the body, is still involved in some mystery. The author explains his own views on this difficult question.

ACADEMY OF MEDICINE.

July 4.

Death from Chloroform in France.

At the Meeting of the Academy of Medicine on the 4th of July, the following instance of the fatal effects of chloroform vapour was communicated to the members by M. Gorré, Surgeon-in-Chief to the Hospital of Boulogne.

The patient was a female about 30 years of age; and the operation which was performed on her under the use of chloroform vapour, was merely that of opening an abscess caused by a foreign body lodged beneath the skin. Before commencing the operation, M. Gorré held under the nostrils of the patient a handkerchief on which he had poured about *fifteen or twenty drops* of chloroform. The patient had only made a few inhalations, when she cried out, "I am suffocating." Her face became pale,—the expression of her countenance was changed, the respiration was difficult, and there was frothing at the mouth. The handkerchief was withdrawn, and the operation was performed. During its performance, which occupied a very short time, one of the assistant-surgeons endeavoured to restore the patient from the state of inanimation into which she had fallen. M. Gorré and his assistants persisted for two hours in the use of every possible means to rouse her; but their efforts were vain. They could hardly persuade themselves that she was dead, although it is most probable that she died about the time at which the operation was commenced. The author compared the suddenness of death to that state in which the individual dies from the introduction of air into the veins.

There is but a very meagre account of the post-mortem examination. A quantity of air was found in the veins, especially in those of the brain and at the base of the skull, as well as in the pulmonary, hepatic, and crural veins. The blood was *remarkably dark, and very fluid; in colour, it resembled ink*.

M. Gorré referred death, first, to the poisonous action of chloroform vapour specially exerted on the brain; and, secondly, to the spontaneous evolution of air in the circulating system, probably arising from the peculiar action of the narcotic vapour on the blood. Whatever may be the explanation, observes the author, the facts clearly prove that chloroform vapour may, in certain constitutions, destroy life with tremendous rapidity; and, even in the hands of experienced men, there is no certainty that these dangerous results will not follow in a very unexpected manner. The dangers arising from its use, pointed out by MM. Bouisson and Sedillot, are not exaggerated; and it would be the height of imprudence, with a knowledge of this possible risk of life, to employ this agent in the performance of *minor* surgical operations.

Some discussion followed the reading of this paper.

M. Velpeau thought that the dose of fifteen or twenty drops was too small to occasion fatal consequences. He doubted whether death could be fairly ascribed to the use of chloroform; and considered it more probable that it was one of those instances of sudden death which now and then occur during the performance of trivial operations, and for which no known cause can be assigned. M. Gorré appeared to think that the patient had died in a state of syncope; and he inquired whether the introduction of air into the veins might not have been the cause of death. This, however, is not probable; for death appears to have actually occurred before the commencement of the operation, and, therefore, before any wound could have been made into a vein. Moreover, as the body was not inspected until twenty-four hours after death, and while the temperature was high, the air found in the blood-vessels may really have resulted from putrefaction. M. Velpeau thought, that if death really did result from chloroform, that the case was of too exceptional a kind to justify the conclusion of M. Gorré, that chloroform should be no longer employed in surgical operations.

M. Moreau stated, that M. Robert had lately lost a patient under the use of chloroform, administered during the performance of amputation of the thigh.

M. ROUX agreed with M. Velpeau, that it was very doubtful whether death had been here occasioned by chloroform. The mode of administration may have had something to do with the fatal result. When a handkerchief is used, there is always a privation of air and an impediment to respiration. He thought that there might have been a rupture of the lungs in a strong effort to breathe, and that air might thus have found its way into the circulation and have caused death.

M. BAILLARGER suggested that death might have been occasioned by an attack of syncopal epilepsy, brought on by the respiration of chloroform vapour. It should never be administered to individuals subject to convulsive attacks.

M. PIORRY stated, in confirmation of this view, that nervous females who respire it often suffer from violent hysterical attacks.

M. GIBERT and M. AMUSSAT considered that the explanation given by M. Roux was probably the true view of the facts—*i. e.* that death had taken place from the introduction of air into the veins, occasioned by a rupture of the lungs.—*Gazette Médicale*, 8 Juillet.

*** From this report it will be seen, that these cases of alleged death from chloroform vapour give rise to as much controversy in France as in England. It is to be regretted that the post-mortem appearances were not more fully given. There can be little doubt from the details, that the patient was either dying or dead before the operation was commenced, and it is somewhat surprising that a surgeon should have operated under circumstances calculated to create alarm. The majority of the speakers appear to have considered that death was caused by chloroform vapour. M. Gorré assigned to it a directly poisonous action—a view strongly corroborated by the remarkable state of the blood. MM. Roux, Gibert, and Amussat considered that death was an indirect result of chloroform, assuming that the lung was ruptured in the attempts to respire the vapour, and that air thus found its way into the blood-vessels and destroyed life. If this be true, it is wonderful that, out of some thousands of cases, it has not occurred before: but it is not reconcileable with the altered state of the blood, which bore the characters of poisoning by chloroform; and it is singular that the condition of the lungs is not referred to in order that the correctness of this opinion might be fairly tested. Whether the air in the veins was the result of putrefaction or any other cause it is impossible to say, but it is not a little singular, that in the American case of poisoning by chloroform, elsewhere reported,[*] bubbles of air were met with in the veins of the brain, although no vein had been opened, and the inspection proved that the lungs were not ruptured.

We think that the short and simple explanation of the matter is, that the woman was poisoned by the vapour of chloroform.

Medical Trials and Inquests.

DEATH DURING THE INHALATION OF THE VAPOUR OF CHLOROFORM.

AN inquest was held on Saturday, July 1st, before Mr. Wakley, in Francis Street, Gower Street, on the body of Walter Samuel Badger, Esq. solicitor, of Rotherham, Yorkshire.

Thomas Badger, Esq., Rotherham, on being sworn, stated that he was an attorney, and also coroner for the county of York, and that the deceased gentleman was his son, and was twenty-two years of age. That he (the deceased) left witness at Rotherham on the Wednesday previous, between two and three o'clock P.M.; that he appeared to be then in perfectly good health, and started for London; that he had always been in good health. After running, or taking any violent exertion, deceased would, like other persons, be somewhat out of breath, but he had no difficulty of breathing, and was not subject to fainting fits.

Jane Cornwall deposed, that she is servant to Mr. Robinson, surgeon-dentist, of Gower Street, and that she was present at the death of the deceased gentleman, in the surgery of Mr. Robinson's house, on the previous day (Friday, June 30th); stated that she always attended Mr. Robinson when he administered the chloroform or ether to ladies, and that she was present when gentlemen were the subjects of operation, if the footman happened not to be in the way. That the whole time, from the period when the deceased gentleman entered the surgery to that of his death, *was not more than five minutes.* That the bell rang, and she went in as usual, and, on entering the room, saw the deceased sitting in the operating-chair.

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[*] Page 79.

That Mr. Robinson said to him, "If you feel afraid, don't take the chloroform;" when deceased replied, that he did not feel afraid, and he would take it. Mr. Robinson observed, "Then I'll give it you; we'll sit down and take it very quietly." Believes that deceased wanted some stumps of teeth extracted. Before deceased had taken *six inhalations*, he said that the chloroform was not strong enough. The apparatus or inhaler was held by Mr. Robinson, at a distance of an inch and a half or two inches from deceased's mouth and nose: *it was not applied close to his mouth and face.* When deceased remarked that the chloroform was not strong enough, Mr. Robinson said, "Let me take them out without." In a moment the gentleman's hand dropped from the part of the chair whereon it was resting, and then his head, and witness never heard him speak or saw him move after. He was talking the instant before his head and hand dropped, and said to Mr. Robinson, "It is very pleasant." Perhaps the inhaler had been taken from before his mouth a second or so before his head and hand fell. It was held by Mr. Robinson himself, and was not before deceased's mouth and nose *a minute* altogether. Of that she is certain. Immediately after deceased's head and hand dropped, Mr. Robinson applied cold water to his face. A surgeon was sent for instantly, and Mr. Hardy and Dr. Waters attended, and tried to bleed him. Bleeding was attempted in less than two minutes after deceased's head dropped. The doctors laid the deceased on the floor. Witness has lived upwards of three years with Mr. Robinson, and firmly believes she has seen him administer the chloroform seven or eight hundred times, and has never seen any ill effects from it at any time; has seen no one faint from its use, and has not heard any one complain of its effects; is positive that the deceased himself asked to have the chloroform administered, and Mr. Robinson requested him not, but to have the operation performed without.

Albert Salton, footman to Mr. Robinson, deposed, that he was present at the death, or immediately after the death, of the deceased gentleman. The bell rang; he went to the surgery. Mr. Robinson said, "Come here!" He went and held deceased's hand. Deceased seemed going off in a fit, and in half a minute Mr. Robinson sent witness for a doctor, and he returned with one in about a minute. That an attempt was made to bleed deceased, when only a few drops of dark-coloured blood were obtained. When witness entered the room, deceased was in the operating-chair, and appeared to be leaning backwards. Dr. Waters laid him on the floor. Witness had let the deceased in when he knocked at the door; he then appeared in good health. Has seen Mr. Robinson administer chloroform in hundreds of cases; ladies have sometimes fainted. Mr. Robinson has not administered ether for six or eight months past, but has used chloroform only.

James Robinson, surgeon-dentist, Gower-street, deposed that he had never seen the deceased gentleman until Thursday; that he applied to witness on that day to have an operation performed on his teeth, but that being engaged, he (Mr. Robinson) was obliged to make an appointment for the following day (yesterday). Just after deceased had entered the surgery, he said that his heart failed him, and that he would not have his teeth out without taking the chloroform. Told him that it would be over in a moment, and that he had better not. He persisted; witness then called in the female servant, the footman being engaged. Put *a drachm and a half of chloroform* on the sponge of the inhaler; that is the usual quantity; then held the inhaler at a distance from his mouth, and he had not inhaled a minute before he said, "It is not strong enough; make it stronger." Witness then asked the girl for the bottle containing the chloroform, but before he could take it from her, to apply more to the sponge, the head and hand of the deceased gentleman dropped. Witness immediately applied cold water to his face with a towel, and poured cold water on his head from a pitcher. He also immediately dispatched his servant for the doctor, and slit up the sleeve of his (the deceased's) coat, for the purpose of bleeding him. At that moment the doctors arrived, and made the attempt, but all their efforts proved unavailing. Had only used a drachm and a half of chloroform altogether; it had been only placed upon the sponge once. Believes that he has administered ether and chlorolorm, in his own practice and that of operating surgeons, between three and four thousand times. Not a second before deceased's head and hand dropped, he was laughing and talking.

John Waters, M.D., South-crescent, Bedford-square, deposed that he was called to the deceased by Mr. Robinson's footman. Went instantly; found the deceased seated in an operating-chair; on examination of his chest, he thought he could detect three or four contractions of the heart. Attempted venesection, but could only obtain a very small quantity of dark blood. Found him in an erect position; laid him on the floor; cold was applied to the head, and warmth to the extremities. The face was livid; pupils dilated; temperature of body lower than natural; chest exposed. Tried artificial respiration, but all the efforts that were used failed. [Had made a post-mortem examination that morning (Saturday) about twenty hours after death. The body was well formed and muscular; the neck plethoric and rather short; countenance of a bluish livid appearance; eyes [pupils?] dilated, particularly the left; chest well formed, but generally dull all over on percussion, particularly the right side; parietes less resonant over the heart's region than in the natural state. Abdomen prominent, from a deposition of fat; dulness on percussion, extending into the right iliac region; lower extremities not œdematous. On dividing the scalp there was observed some turgescence of the vessels. The membranes presented a congested appearance all over the cerebral mass; there was nothing abnormal in the cerebrum, nor any effusion into either ventricle; the surface of the corpora striata and optic thalami were slightly congested; the cerebellum and pons Varolii offered nothing remarkable. On raising the sternum, observation was made of the very small diameter to which the chest was reduced, for it was found that the lungs and heart were pushed upwards to a line extending between the third and fourth ribs; the lungs were healthy and crepitant throughout their entire extent; there were some adhesions on the right side, of long standing, but no marked congestion.* On dividing the pericardium, no undue effusion of serous fluid was found. The heart looked of a paler colour than usual, and was flaccid, but was not in a hypertrophied or dilated condition; some spots of adipose matter were observed here and there on its surface. On dividing the left ventricle, its walls were found thinner than natural, and its tissue was interspersed with "fatty" degeneresecence; this morbid state was particularly observable at the apex, where the muscular tissue only measured about two lines, and the abnormal deposition was very evident at this point; the right ventricle and septum offered nothing remarkable but the lesion of secretion already observed; both ventricles contained clots of dark grumous blood. The inner surface of the aorta felt rather rough, and the mitral valves were unequal at their edges, with some slight rugosity; on dividing their base, the tissue was hard, and made a grating noise under the scalpel. Abdomen: The omentum was loaded with fat; stomach not distended by gases; liver preternaturally enlarged, and extending upwards in a line between the third and fourth ribs; it was of a pale brownish colour, and in some parts almost approaching to a dirty white; this was particularly observable in the Spigelian lobe, where the fatty degeneresecence was very evident; there appeared to be no other change of structure. It weighed *eight pounds*.* The other organs of the abdomen were healthy.]† Witness attributes the death to the diseased state of the heart, and the obstruction to the flow of blood through it, produced by the pressure of the enlarged liver. On being asked to connect the history of the case as it had been proved on oath, with the post-mortem appearances, and then to state whether he attributed any ill effects to the inhalation of chloroform, witness said, that in all probability the death would not have happened if the chloroform had not been administered. The death, therefore, might be attributed to the action of the chloroform on an extensively diseased heart.

Mr. Erasmus Wilson deposed that he was present at the examination of the body, with Dr. Waters, and agreed with him as to the morbid conditions which he had described. He attributed death to the stoppage of the heart's action. On being asked to what circumstance or circumstances he attributed the cessation of the heart's action, witness said that it was probably the effect of the chloroform, owing to the diseased condition of the heart and the small space the heart had to act in, occasioned by the pressure of the enlarged liver, and the quantity of fatty matter deposited in the abdomen.

After a summing-up by the Coroner, the jury returned the following verdict:—"That Walter Samuel Badger died from the mortal effects produced by the inhalation of chloroform upon a heart extensively diseased, and greatly obstructed in its action by a liver much enlarged beyond its natural size.—*Lancet*, July 8.

DEATH FROM THE INHALATION OF CHLOROFORM IN THE UNITED STATES.

Report of the principal facts connected with a fatal case of Chloroform Inhalation, which occurred in Cincinnati, on the 23d of February, 1848.

General History.—The subject of the following report, Mrs. Martha G. Simmons, was, at the time of her decease, thirty-five years and ten months old. Her husband states that she generally enjoyed excellent health; sometimes she was "nervous," and suffered occasionally with neuralgic pains about the face and pain in the ear, apparently arising from decayed teeth. She also suffered at times from "sick headache." She was the mother of six children, five of whom were still living; her last accouchement occurred eight weeks previous to her death. Nothing unusual was observed, either at the time of parturition or subsequently;

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* In his evidence at the inquest, Dr. Waters stated that the lungs presented a little sign of congestion.

* The average weight is from four to five pounds.

† From Dr. Waters's report of the post-mortem examination.

her health remained good, and the ordinary quantity of milk was secreted.

On the 23d of February she dined at a quarter past 12 o'clock, and after dinner walked to a dentist's, a distance of about three-fourths of a mile, for the purpose of having some roots of teeth extracted. She arrived at the dentist's 16 minutes before 3 o'clock, appeared slightly flushed from the exercise of walking, but exhibited no alarm on account of inhaling the chloroform.

At 3 o'clock, fifteen minutes after her arrival, Mrs. S. commenced inhaling chloroform. Mrs. Pearson and Mrs. Cress, two female friends, were present, and report the following as the events which occurred:—The respiratory movements appeared to be free; chest heaving. While inhaling, *the face became pale*. At the expiration of about *one minute*, the instruments were applied, and four roots of teeth extracted. The patient groaned, and manifested what they regarded as evidences of pain, while the teeth were being extracted, although she did not speak, or exhibit any other sign of consciousness. As the last root came out, which was about two minutes from the beginning of the inhalation, patient's head turned to one side, the arms became slightly rigid, and the body drawn somewhat backwards, with a tendency to slide from the operating-chair. At this instant, Mrs. Pearson states that she placed her finger upon the patient's pulse; observed that it was feeble and immediately ceased to beat; respiration also ceased *about* the same time. The face, which was previously pale, now became livid, as also did the finger nails; the lower jaw dropped, and the tongue projected a little at one corner of the mouth, and the arms were perfectly relaxed. The females regarded her as being then quite dead. Efforts were made to resuscitate the patient: ammonia was applied to the nostrils, cold water dashed in the face, mustard, brandy, &c. applied. The patient was now removed from the operating-chair and laid on a sofa; but she did not breathe, nor exhibit any sign of life, after being placed in the recumbent position.

Statement of the dentists. — Messrs. Meredith and Sexton, the dentists who operated in the above case, make the following statement:—The patient took the chloroform vapour from Morton's inhaler; it contained a sponge (perhaps one-third filling the glass globe of 4½ inches diameter) saturated with the liquid; to this, 25 drops more were added when the patient began inhaling. Breathing at first slow; inhaled twelve or fifteen times, occupying from a minute to seventy-five seconds. One of the dentists thinks she remained about *ten* minutes in the operating-chair, and that life was not extinct until the end of that time; the other estimates the time at *five* minutes. One says he does not know whether she breathed after being laid on the sofa or not; the other thinks she did not.

The only material difference between the statements of the females and the dentists, relates to the length of time which elapsed from the beginning of the inhalation to the instant of death. The females estimate it at about *two minutes*; the dentists at from *five to ten minutes*. It is clear, however, that the patient could not have been laid on the sofa short of five or ten minutes; for one of the dentists went out to a neighbouring establishment twice to procure resuscitating agents before the patient was removed from the chair, which probably occupied the time specified. But whether the patient continued to breathe during those five or ten minutes, or whether the pulse and respiration ceased at the end of two minutes, when the last tooth was extracted, as supposed by Mrs. Pearson, seems impossible positively to decide. The most that can be said is, that she died within a very short time—not exceeding *ten*, and possibly at the end of *two* minutes.

Medical aid.—After the patient was laid on the sofa, medical aid was sought, and Dr. A. H. Baker was the first physician who arrived: this was probably thirty minutes after respiration had ceased. He immediately pronounced her dead, but proceeded to employ vigorous measures for resuscitation. The principal means employed consisted in artificial respiration, electro-magnetism, and external stimulants. Prof. Locke applied electro-magnetism, which caused active muscular contraction, but no evident effect on the heart. About an hour after the accident, Professors Mussey and Lawson arrived, and aided in the further employment of the means above specified. Not the slightest sign of life was manifested after the arrival of Dr. Baker; the heart did not respond to the electricity, and the only change produced was some slight removal of the lividity of the countenance by the artificial respiration.

Post-mortem examination.—The post-mortem examination was made twenty-six hours after death. Present—Drs. Mussey, Lawson, Baker, and Mulford.

Examination by Dr. Lawson. Record by Dr. Mussey.

External appearances.—Lips livid, but face pale; bloody froth issuing from the mouth. Anterior surface of body and limbs free from discolouration, but posteriorly the skin presented a deep livid hue. Cornea dull and flaccid, and a dull-red horizontal belt extended across each eye, corresponding to the part which was unprotected by the lids; this belt was one-tenth of an inch in diameter, and made its appearance a few hours after death. Limbs quite rigid. Abdomen distended with gas. Patient rather muscular; weight probably from 140 to 150 pounds; hair dark; eyes dark brown; temperament sanguineo-bilious.

Brain.—Integuments contained but little blood. On removing the upper part of the skull, a larger quantity of blood than usual flowed from the vessels of the dura mater. Superficial vessels of the brain moderately distended; two or three ounces of fluid blood, intermixed with bubbles of air, flowed from the sinuses of the dura mater. General aspect, colour, and consistence of the brain, normal.

Lungs.—Considerably but not intensely congested: crepitated freely at all points; no extravasation. Lining membrane of bronchia slightly congested, apparently the result of recent catarrh; deeply stained by the blood. Pleura at all points highly injected; six drachms of bloody serum in the right, and two ounces in the left chest.

Heart and large blood-vessels.—Pericardium contained six drachms of bloody serum. Heart flaccid, *and all its cavities entirely empty;* inner surface of both ventricles and auricles deeply stained. Aorta and pulmonary artery empty; no blood in the cava within the chest, and a very small quantity in the part which lies within the abdomen: indeed, so small was the amount that it could not be appreciated until the vessel was opened. Lining membrane of all the blood-vessels deeply stained.

Abdomen.—One ounce and a half of bloody serum in the right hypochondrium. Stomach and intestines distended with gas. Partially digested aliment, amounting to about three gills, was found in the stomach. Liver paler than natural, arising from the absence of blood; kidneys considerably engorged. No marks of previous disease in any of the abdominal organs. Uterus and bladder normal; the former exhibited the usual condition of the organ two months after delivery.

Blood.—Fluid as water in every part of the body; not a coagulum was seen in any vessel. Examined with the microscope, the globules appeared altered somewhat in form; some were irregular in shape, and they seemed generally distended and more globular than is normal; they were also somewhat fragmentary, a part apparently having been ruptured; their number seemed somewhat diminished. The colour, in every part of the system, was that of dark venous blood.

Sympathetic nerve.—The sympathetic nerve, together with its larger ganglia, including the semilunar ganglion, presented a natural colour.

The Chloroform used.—The specific gravity of the chloroform employed was found to be 1·3. It contained some alcohol, but upon the whole it is regarded as a fair article; it was the same which the dentists had previously used in numerous cases without any unpleasant results.—*Western Lancet*, and *Phil. Med. Exam.* April 1848.

Correspondence.

ON THE USE OF TAR IN CUTANEOUS DISEASES.

Sir,—Will you allow me to express my obligation to Mr. Wetherfield for his observations on the use of tar in cutaneous diseases, in the last number of the Gazette? The notorious intractability of these disorders naturally excites one's attention to any remedy which has proved successful; accordingly, the treatment by tar, especially since the introduction of capsules, has come into very general use; and it is unquestionable that some obstinate cases have yielded to it. I still, however, must maintain my preference for a previous trial of arsenic in decreasing doses, and on a full stomach, for the following reasons:—

1. As far as my experience has extended, it has, when regularly and properly administered, never yet failed in any of the diseases enumerated by your correspondent, provided the patient be free from organic disease, and temperate in his habits. And we have yet to learn whether, in any of the cases of reputed failure, the arsenic has been carefully administered in accordance with the conditions I have specified;—and this is an all-important point; for in a majority of my own successful cases arsenic *had failed*, having previously been tried on an essentially different plan; and in many of them, tar had likewise failed.

2. Arsenic not only cures the disease, but, when continued for a certain time after the final disappearance of the disease, *always* in a great degree, and frequently *entirely*, destroys all tendency to the morbid action. This is not the case with tar. On Mr. Wetherfield's own showing, some of his patients were only relieved for the time, and "suffered repeatedly from the disease."

3. Although Mr. Wetherfield's patients appear to have made no complaints—to their honour be it spoken—yet the odour of tar, to say nothing of its trouble and filth, is to some persons intolerable; and to none can it be agreeable to reflect, that they carry it about with them into every company. Arsenic is not open to this objection.

4. Arsenic, besides being more certain and lasting in its effects, as well as less unpleasant, *is as safe as tar*. Of this I have abundant proofs in the history of many thousands of cases. Nor have I yet met

with a patient who, from idiosyncrasy, could not bear it. I have explained in my book, that where the system was remarkably susceptible, and in a degree intolerant of the remedy, the disease was so much the more amenable to its influence, yielding speedily to such very minute doses as the patient could bear with impunity.

Nevertheless, if I should meet with a case in which arsenic cannot be borne in any dose, I will certainly give a trial to the tar.

I may perhaps be allowed to add, however, that it is our duty in every case, as it will prove our interest, as well as that of the patient, to try at once the most effective remedy we have at hand, especially if it be safe, and subjects the patient to no annoyance.

Again thanking your correspondent for his hints, and anxiously courting the most rigid inquiry into my own method of administering arsenic, I remain, sir,

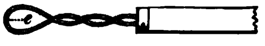
Your obedient servant,
THOMAS HUNT.

Herne Bay, July 1, 1848.

ON THE EXTRACTION OF FOREIGN SUBSTANCES FROM THE CONJUNCTIVA.

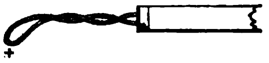
SIR,—Having myself frequently suffered from this cause, and having frequently met with instances where particles of coke expelled from the engine, so small as to be almost invisible, have become impacted in the conjunctivæ of railway travellers, I beg to submit to your notice a small instrument which I have found of service in the extraction of these minute particles, provided that any portion of them projects above the surface of the conjunctiva. It consists simply of a common sewing needle, of sufficient length to be twisted over the flame of a candle into a loop the eighth part of an inch in diameter, and bent so as to form a concavity equal to the convexity of the eyeball; it is filed to form an edge on the inner side of the loop; and the ends are inserted into a small handle, thus—

Direct view.



e, cutting edge.

Profile view.



* The external sharp edge is to be ground or filed off.

In using it, the concave surface is applied to the eyeball so as to enclose the foreign body; the instrument is then drawn in the direction of the handle, and the internal edge, catching against the projecting portion of the body, raises and withdraws it.

The advantages of this instrument are, that it can be introduced within the eyelids, even when closed, and be passed over the surface of the eyeball in any direction, without the slightest fear of injury. Even when the particles are so small as to be invisible to the naked eye, having detected their position by a lens they can thus be scraped off with ease. Lastly, the instrument can be constructed in a few minutes in any situation, no cottage being so destitute as not to be able to provide the materials—viz., a needle, a candle, a file or a whetstone, and a bit of wood for a handle.

I am, sir, your obedient servant,
T. OGIER WARD, M.D. Oxon.

Kensington,
June 30th, 1848.

MR. SOLLY'S CASE OF SCIRRHUS OF THE PAROTID GLAND.

SIR,—In the 36th volume of the MEDICAL GAZETTE (p. 1449) you published a clinical lecture of mine on Scirrhus of the Parotid Gland, and excision of the lower jaw. I now forward to you the ultimate result, regretting that a variety of circumstances have delayed it so long. The wound nearly healed, and that rapidly; but a small point remained near the meatus auditorius externus, from which the disease sprang up again. It extended very slowly from this point *externally*, but it was evidently advancing internally; for the man became amaurotic, and exhibited general symptoms of cerebral disease. He died comatose after some days of insensibility.

My colleague, Mr. Dixon, examined the parts after death, and has kindly drawn up the following account.—I am, sir,

Your obedient servant,
SAMUEL SOLLY.

The following is a short account of the morbid parts removed from your patient, Thomas Partner. I did not see the preparation until after it had been nearly five months in spirit; so that the dissection was far less satisfactory than it otherwise would have been.

An irregular soft tumor occupies the inner half of the right middle fossa of the skull, spreading over the petrous portion of the temporal bone, and for some distance along the basilar process of the occipital. Throughout this extent it adheres to the dura mater, although it may be detached from that membrane without tearing; but around the internal auditory foramen, and thence to the apex of the petrous portion of the temporal bone, the tumor and dura mater are inseparably united to each other. The 9th and 8th nerves pass freely out of the skull, but the facial and auditory nerves cannot be disentangled from a dense nodule of the morbid growth, which envelopes them at their entrance into the foramen auditivum. The trunk and ganglion of the 5th nerve are also completely imbedded in the tumor. Of the nerves which pass along the cavernous sinus, the 3d can alone be recognized, and that very indistinctly, as the tumor has penetrated the outer wall of the sinus, and matted together the 4th and 6th nerves, and the ophthalmic branch of the 5th. The optic nerve is quite free from disease.

The osseous structure of the skull does not appear to be changed, except just around the foramen ovale in the sphenoid bone, where it is discoloured and rather soft; and here the corresponding portion of dura mater is thickened.

The inferior maxillary nerve, as it is passing through the foramen, is pulpy. Its inferior dental branch, at the foramen, and the second division of the 5th nerve, where it emerges on the cheek, appear to be undiminished in bulk. The teeth in the lower jaw are firmly set in the gums, and it seems probable that the trunk of the dental nerve was not divided in the operation, as I remember the patient retained feeling in the chin and lower lip, after the ramus of the jaw had been removed.

Of course no very accurate examination can be made of a tumor which has been so long steeped in spirit. The diseased growth within the skull seems chiefly made up of nucleated cells; and that in the parotid region presents the same structure, but many of its cells are caudate.

ON THE CAUSES OF THE CRACKED METAL SOUND.

SIR,—The reviewer of Dr. Blakiston's work on Diseases of the Chest, in the number of the British and Foreign Medico-Chirurgical Review for the last quarter, commenting on the author's variance in the cause of production of the cracked metal sound with Dr. Walshe, details two other conditions under which it may occur, which in the reviewer's opinion corroborates the view of the latter physician.

Laennec imagined that both air and fluid in the pulmonary excavation were necessary for its production; the bruit de pot fêle was deemed by him to be pathognomic of a vomica in the lung.

Dr. Walshe thinks that air alone is necessary for its production, and the immediate physicial cause for its elicitation to be a forcible expulsion of air from an anfractuous excavation in the lung into the air-tubes entering it.

The reviewer, after hinting that the occasional absence of the sound may be due to the blocking up of some of the bronchial tubes leading to the vomica, by some of its, as well as of their own contents, (which must under such circumstances be unusually viscid); or to the imperfect manner in which percussion is often formed, states that the cracked metal sound can be elicited under the following circumstances:—

1. In a cavity quite empty of fluid, freely communicating with the surrounding bronchial tubes.

2. In compression of the lung from pleuritic effusion, and where the tubular, amphoric, or amphorotympanitic sound is usually produced on percussion: here the sound on percussion is often very analogous to the bruit de pot fêle.

The reviewer remarks, if such be correct, a jogging and splashing of air with fluid in a cavity is not indispensable for its production. Dr. Stokes has also remarked, that in some cases of bronchitis in young subjects, the sound on percussion over the lower and back portions of the lungs, is often like the cracked-jar sound of cavities.

My object, sir, in making these remarks, is to point out another condition under which this sound may be present; this may be detailed as follows:—I was asked about six months back to see a lad, who had had a pulmonary complaint, (imagined to be phthisis) for two years past; he was moribund when I saw him, and died two hours after.

On percussing the upper part of the left side immediately under the clavicle, the cracked metal sound was elicited in the most perfect manner.

On post-mortem inspection (corresponding to the part where the sound was produced during life), two circumscribed portions of sub-pleural emphysema were seen together as large as a full sized hen's egg; there was a cavity in the left lung, nor was the disease of a tuberculous character; it was an example of chronic pneumonia. It is unnecessary to particularize the other morbid appearances: suffice it that the circumscribed interlobular and subpleural emphysema elicited a sound indistinguishable from the bruit de pot fêle of pulmonary excavations.

I will not occupy your space further than to remark, that the physical cause of its production was the collection of air chiefly in the cellular tissue over the upper portion of the left lung, which, by forcible percussion, was made to permeate the surrounding cellular tissue, returning after the percussion stroke to the situation where, before the stroke, it was chiefly collected.

The entire lung was condensed, unfitted for respiration, and closely adherent (except at the upper part) to the walls of the chest; the emphysema was doubtless due to a rupture of a superficial air-cell, and prevented extending by the thickened and adherent state of the pleura, which had recently been inflamed.—I remain, sir,

Your obedient servant,
R. C. Golding.

29, King William Street, Trafalgar Sq.,
July 7th, 1848.

DEATH FROM CHLOROFORM IN INDIA.

Sir,—The following case of death from the inhalation of chloroform vapour has been communicated to me; and feeling the importance of placing similar facts fairly before the profession, I trust you will give it insertion in your journal. It is extracted from Allen's Indian Mail, July 4th.—I have the honour to be, sir, your obedient servant,

Robert Barnes, M.B.

Gloucester Terrace, Hyde Park,
July 11, 1848.

At Hyderabad. From the pen of the operating surgeon. Furnished by Dr. Hardinge, to whom it was addressed for public communication:—"A most distressing case has just occurred in my public practice here. Chloroform has proved fatal in my hands. A young woman presented herself this morning with disease of the distal phalanx of the middle finger of the left hand, requiring amputation at the middle joint. As she appeared of timid disposition, and exhibited more than usual reluctance to submit to the little operation, I administered a drachm of chloroform in the usual way, namely, by sprinkling it on a pocket-handkerchief and causing her to inhale the vapour. She coughed a little, and then gave a few convulsive movements. When these subsided, I performed the necessary incisions, which, of course, did not occupy more than a few seconds. Scarcely a drop of blood escaped. The patient was then put into the recumbent posture with the head low. Active means were taken to bring her out of the state of coma into which she had apparently fallen. But although these means, including artificial respiration, were perseveringly employed for five hours, the *unfortunate woman never breathed again*. I am inclined to think that death was almost instantaneous; for after the convulsive movement above described, she never moved, or exhibited the smallest sign of life. No opportunity was afforded me of making a post-mortem examination; so that it must for ever remain a secret whether or not there were any special circumstances, such as aneurism of one of the great vessels, or disease of the heart."

[The chloroform was supplied by Messrs. Twemlow and Co., Bombay. It required a drachm and a half of the same chloroform in another case to produce a slight effect.]

Medical Intelligence.

THE ASIATIC CHOLERA IN RUSSIA.

The following is an extract from a letter dated St. Petersburgh, June 19 (July 1):—"The cholera has now raged here for more than a week, and about 800 cases are reported daily. The great mortality among the Moujiks has led them, in their ignorance, to believe that they are being poisoned wholesale, and yesterday several disturbances took place, in consequence of some of the people attacking persons whom they suspected of strewing poison over the provisions exposed for sale in the markets. One man was beaten to such a degree that he has since expired, and a respectable English merchant (resident of this place) who attempted to interfere, was hardly able to escape a similar fate. Summary punishment has, however, been inflicted by the authorities on the poor deluded Moujiks who were the principal aggressors, for three of them were this morning publicly flogged in the market-place. A letter dated Bucharest, June 23, announces that politics are completely in abeyance in consequence of the fearful spreading of the cholera within the last few days. The number of cases are now 186 a day, of whom a fifth are rapidly carried off. An universal panic has seized all the inhabitants, and every person that can fly from the city to the mountains does so in the greatest haste. Even the gipsies of Transylvania have demanded their passports in order to hasten home, and, if possible, escape the fearful contagion. All the public tribunals are closed.

THE WOUNDED IN PARIS.

According to an official return, published in the *Moniteur*, 1,179 wounded still remained in the civil hospitals of Paris on Saturday.

In the Military hospital of the Val-de-Grâce there are no less than 500 cases of wounds, many of them of a very severe description.

According to a circular published by M. Thierry, it appears that the late struggle for "liberty, equality, and fraternity," was attended with the following results:—

From the 23d to the 28th June, there were received into the hospitals 1781 cases of wounds; but of these, 162 were dead when brought in. In addition to these there were in five days 195 deaths. On the 29th June there remained in the hospitals 1267 wounded; and in the temporary Ambulances 364, making a total of 1631 persons still under treatment.

OBITUARY.

On Saturday, the 24th inst., in his 47th year, John M. M. Jameson, M.D., late of the Highway, Enfield.

At Southampton, on the 4th inst., James Claudius Paxton, Esq., M.B. and Radcliffe Travelling Fellow of the University of Oxford.

On the 30th ult., at Cavan, after a short illness, Doctor M'Donald, one of the oldest practitioners in the north of Ireland. For upwards of 30 years he was physician to the county *fever* hospital in that town: the ordinary duties of which (together with a most extensive practice,) he discharged with that skill and untiring energy that marked his whole life.

On the 26th ult., of fever, at the residence of his brother, Partry-house, Mayo, George Lynch, Esq., M.D., aged 34, late physician to the Fever Hospital, Ballinrobe, and fifth son of the late Major Lynch, of Partry-house, Mayo.

On the 9th inst., at Oxford, Charles Webb, Esq., surgeon, aged 53.

Selections from Journals.

FORENSIC MEDICINE.

ON THE SIGNS OF DEATH. BY M. BOUCHUT.

From his inquiry into the circumstances by which apparent death may be distinguished from real death, M. Bouchut has ascertained that all forms of apparent death, especially those which are due to asphyxia and syncope, present, whatsoever be the diversity of their symptoms, one common character—namely, the persistence of the pulsations of the heart—which distinguishes them from real death. A commission of the French Institute, appointed to inquire into the merits of M. Bouchut's investigations on this subject, report, that having repeated his observations and experiments upon man and animals, in which syncope has been carried to its utmost limits, they can fully confirm the fact, that in all such cases the pulsations of the heart continue, and may be detected by auscultation. According to M. Bouchut, the certain signs of death are of two kinds—immediate and remote. The immediate signs of death in man are—first, prolonged absence of the movements of the heart, as recognizable by auscultation; secondly, the simultaneous relaxation of all the sphincters, due to the paralysis of those muscles; and lastly, the flaccidity of the globe of the eye, and the loss of transparency of the cornea. In the opinion of the Commission, these signs have not an equal value, the first being by far the best and most certain. For, if ever the movements of the heart are undetectable by auscultation, for a period of five minutes together, it may with certainty be concluded that death has ensued. Moreover, this cessation of the movements of the heart is always accompanied by two striking phenomena—namely, the arrest of the respiratory movements, and loss of sensation and of the power of motion. The second circumstance—namely, the simultaneous relaxation of the sphincters—admits of more doubt as a certain sign of death. The condition of the eye, the Commission thinks, cannot with safety be taken into consideration as a sign of death. So that cessation of the movements of the heart is the only certain proof of the complete cessation of life. The remote signs of death are stated by M. Bouchut to be—cadaveric rigidity, absence of muscular contraction on the stimulus of galvanism, and the occurrence of putrefaction. These points are admitted by all medical jurists, and cannot be disputed. Since general putrefaction of the body, however, only ensues after the lapse of a considerable time subsequently to the manifestation of the other signs, it is not necessary to wait for its occurrence before pronouncing on the reality of death; consequently, all houses established for the purpose of keeping bodies until putrefaction commences, as is done in Germany, must be productive of no advantage. The Commission also urges the necessity, in all cases, of entrusting to medical men the duty of deciding whether death be real or apparent; for by them only can the cessation of the heart's movements, the existence of cadaveric rigidity, and the loss of muscular contractility, be recognised and rightly estimated.—*Gazette Médicale*, Mai 31, 1848. A

DR. MEIGS ON THE USE OF CHLOROFORM IN MIDWIFERY.

(Extract from a letter addressed to Dr. Simpson.)

I have been accustomed to look upon the sensation of pain in labour as a physiological relative of the power or force; and notwithstanding I have seen so many women in the throes of labour, I have always regarded a labour-pain as a most desirable, salutary, and conservative manifestation of life-force. I have found that women, provided they were sustained by cheering counsels and promises, and carefully freed from the distressing element of terror, could in general be made to endure, without great complaint, those labour-pains which the friends of the anæsthesia desire so earnestly to abolish and nullify for all the fair daughters of Eve. Perhaps, dear sir, I *am* cruel in taking so dispassionate a view of the case; and it is even possible that I may make one of the number of those "amazed" converts of whom you speak in your worthy letter to me. But, for the present, regarding the pain of a natural labour as a state not, by *all* possible means and always, to be eschewed and obviated, I cannot bring myself to the conviction that of the two, whether labour-pain or insensibility, insensibility is to be preferred. If I could believe that *chloroformal* insensibility is sleep indeed, the most considerable of my objections would vanish. Chloroform is not a soporific; and I see in the anæsthesia it superinduces a state of the nervous system in no wise differing from the anæsthetic results of alcoholic potations, save in the suddenness and transitiveness of its influence. I freely admit, for I know it, that many thousands of persons are daily subjected to its power. Yet I feel that no law of succession of its action on the several distinct parts of the brain has been or can be hereafter ascertained, seeing that the succession is contingent. Many grave objections would perhaps vanish could the law of the succession of influences on the parts of the brain be clearly made out, and its provisions ensured. There are, indubitably, certain cases in which the intellectual hemispheres are totally hebetized, and deprived of power by it, while the co-ordinating lobes remain perfectly unaffected. In others the motor cords of the cerebro-spinal nerves are deprived of power, whilst the sensitive cords enjoy a full activity, and vice versâ.

I readily hear, before your voice can reach me across the Atlantic, the triumphant reply that an hundred thousand have taken it *without accident!* I am a witness that it is attended with alarming accidents, however rarely. But should I exhibit the remedy for pain to a thousand patients in labour, merely to prevent the physiological pain, and for no other motive—and if I should in consequence destroy only one of them, I should feel disposed to clothe me in sackcloth, and cast ashes on my head for the remainder of my days. What sufficient motive have I to risk the life or the death of one in a thousand, in a questionable attempt to abrogate one of the general conditions of man?

As to the uses of chloroform in the medical or therapeutical treatment of pain, the question changes. There is no reasonable therapia of health. Hygienical processes are good and valid. The sick need a physician, not they that are well. To be in natural labour is the culminating point of the female somatic forces. There is, in natural labour, no element of disease—and, therefore, the good old writers have said nothing truer nor wiser than their old saying, that "*a meddlesome midwifery is bad.*" Is chloroformization meddlesome?

If I were amputating a limb, or extirpating a tumor, I should see all the steps of my incisions, ligations, &c. But if I apply my forceps in a right occipito-posterior position, (fourth of Baudeloque,) I know that I thrust the blade of the male branch far upwards betwixt the face of the child and the upper third of the vagina, which, in this case, is already greatly expanded, and that the extremity of the blade is separated from the peritoneum only by the mucous and condensed cellular coat of the tube. Now no man can *absolutely* know the precise degree of inclination his patient will give to the plane of her superior strait, while in pain; an inclination to be modified by every movement of her body and limbs. Under such absolute uncertainty, the best guide of the accoucheur is the reply of the patient to his interrogatory, "Does it hurt you?" The patient's reply, "Yes and No," are worth a thousand dogmas and precepts, as to planes and axes, and curves of Carus. I cannot, therefore, deem myself justified in casting away my safest and most trustworthy diagnosis, for the questionable equivalent of ten minutes exemption from a pain, which, even in this case, is a physiological pain.—*Phil. Med. Exam.*, March 1848.

PHYSIOLOGICAL ACTION OF CHLOROFORM. To understand the physiological action of this substance, it is necessary to remember that sensation is dependent, first, on the existence of consciousness, which is a function of the brain proper (that is, all that portion of the encephalon situated above the corpus callosum); secondly, on the integrity of the spinal cord; and thirdly, on the integrity of the expanded filaments of the nerves which receive the impression. Loss of sensation may be caused by injuring either of these portions of the nervous system; for, if the nervous filaments are diseased, impressions cannot be received; if the spinal cord be injured, impressions are not transmitted to the brain; and, if the brain be disordered, the consciousness of the impression is not experienced. Now the object of giving chloroform ought to be to suspend the brain's functions without affecting the spinal cord, the medulla oblongata, or the sensibility of nerves, and thus produce loss of sensation by rendering the mind unconscious of the impressions made upon nerves. It is questionable, therefore, whether chloroform or ether should be denominated anæsthetic agents, because anæsthesia is generally understood to mean loss of sensibility in a part; whereas, in point of fact, it is suspension of the faculties of mind, and *unconsciousness* of external stimuli, that they produce. In man this is rendered apparent by the fact that the functions of circulation, respiration, uterine contractions, &c. &c. proceed during the comatose state, which would not be the case if the sensibility of the nerves distributed to those organs were destroyed. In animals, similar facts may at once be demonstrated by the action of galvanism, which, when they are perfectly comatose, produces convulsions, spasms, and other reflex movements.—*Dr. H. Bennett's Report; Edinburgh Monthly Journal,* Jan. 1848.

TOXICOLOGY.

CASE OF POISONING BY FOWLER'S MINERAL SOLUTION—DEATH FROM A SMALL DOSE OF ARSENIC. BY DR. H. T. CASTLE, LEEDS.

H. T——, a widow, being reported to have died suddenly from poison administered to her by a man with whom she cohabited, a legal examination was deemed requisite.

Fifty hours after death the body presented the following appearances:—Under parts of the body generally discoloured, from cadaveric extravasation; extremities of the fingers blue; abdomen tense. On opening the abdomen, the stomach and intestines were seen distended with gas; inflammation of the former and of the small intestines was at once detected through their coats, and, on exposing their mucous surface, it was found to be general and intense. At the cardiac extremity of the stomach, and towards the lesser arch, several patches were seen of a deeper tint than the surrounding inflammation. Passing the colon, the inflammation reappeared in the rectum, which had apparently suffered in an equal degree with the stomach.

The uterus contained no fœtus; but was considerably enlarged; its internal surface was in colour modena-red, and copiously bedewed with mucus. The vagina was healthy. In dividing the ovaries, the scalpel had, in one, passed through the centre of (what I believe to be) a corpus luteum: this body is a perfectly empty cyst, the walls consist of two or more membranes, and the cavity will contain a good-sized pea. A slight mark, as of a cicatrix, is to be seen on the surface of the ovary, corresponding with the position of the cyst. The bladder was not examined. There was no appearance of recent disease in the chest or head. The heart was flabby, and contained a little fluid blood. The stomach, its scanty contents, and part of the liver, were sent to an able chemist, who found traces of arsenic in each.

From the imperfect evidence adduced at the inquest, it appeared that the deceased had taken, between Saturday and the following Wednesday, half an ounce of "Fowler's solution," in unknown doses. 'On the Friday following she grew worse, complained of general illness and fever, but of no sickness,' purging, nor particular pain of the stomach. On Saturday she had frequent "fainting fits," but on Sunday appeared to be a little better, till, after eating a small quantity of pudding, and drinking some ginger-beer, she had another fainting fit, and in a few minutes expired.

The chief points in this case appear to be:—

1. The small quantity of the poison that sufficed to prove fatal—perhaps the smallest on record, the (apparent) absence of vomiting and diarrhœa, and the unusual termination by mortal fainting.
2. The relation between the state of the intestinal mucous membrane and that of the uterus. Four months previous to her death, the deceased had borne a child, which she had not suckled, and she was stated not to have been "unwell" since her delivery. There was also some reason to suspect that "herbs," to procure abortion, had been purchased for her only a fortnight before death. Assuming that emmenagogues had been taken, I incline to the opinion that the arsenic caused abortion.—*Provincial Journal,* June 28.

⁂ This case is interesting, from the fact that, admitting arsenic to have been the sole cause of death, it is the only instance recorded in which Fowler's mineral solution has destroyed life. The whole quantity of arsenic taken by the deceased in a period of about five days amounted to 1·83 grains. This is the smallest dose of arsenious acid which has yet been known to have proved fatal to an adult. The poison, probably from its having been given in small and divided doses, did not produce the usual symptoms of vomiting and purging, although its irritant action on the alimentary canal was indicated by intense inflammation. It appears in this instance to have destroyed life by indirectly affecting the heart, and by inducing fatal syncope. It may be a question, however, whether some other irritant substances were not simultaneously administered for the purpose of inducing abortion.

A correspondent of the Provincial Journal, Mr. Hunt, in commenting upon this case, has fallen into a strange mistake respecting the fatal dose of arsenic. Quoting Dr. Christison as to the smallest fatal dose on record, he says that it is six grains for an adult, and four grains and a half for a child. This may have been perfectly true when Dr. Christison published his last edition, but a use is here made of the observation which that author could never have intended. Dr. Christison merely stated a fact as to the smallest dose then recorded; but he nowhere says that a smaller quantity than this will not destroy life. If Mr. Hunt will turn to the 39th volume of this journal, at page 116, he will find a case reported by Dr. Letheby, in which *two grains and a half* of arsenic destroyed a young female. The objection to Dr. Castle's case on this ground is therefore unfounded.

REVOLUTIONARY ATTACK ON A PROFESSOR OF CHEMISTRY.

The Parisian insurgents, in carrying out their views of liberty, attacked the house of an eminent chemist in the Faubourg St.-Marceau. They insisted that he should immediately prepare gun-cotton for their use. For twenty-four hours he resisted this attempt on the part of the revolutionists, informing them that he had not the materials for the purpose. These were, however, immediately procured. Muskets were pointed at the chest of the professor, and the lives of his wife and daughter were equally threatened, and under these circumstances he was compelled to set about the preparation of gun-cotton. He had prepared only a small quantity when the quarter was taken possession of by the Government troops; and he and his family were thus rescued from the perilous position in which these friends of liberty had placed them.—*L'Union Méd.*

BIRTHS & DEATHS IN THE METROPOLIS

During the week ending Saturday, July 8.

BIRTHS.		DEATHS.		*Av. of 5 Sum.*	
Males....	675	Males....	492	Males....	
Females..	607	Females..	478	Females..	
	1282		970		972

DEATHS IN DIFFERENT DISTRICTS.

WEST—Kensington; Chelsea; St. George, Hanover Square; Westminster; St. Martin in the Fields; St. James .. (Pop. 301,326)	160
NORTH—St. Marylebone; St. Pancras; Islington; Hackney ...... (Pop. 366,303)	191
CENTRAL—St. Giles and St. George; Strand; Holborn; Clerkenwell; St. Luke; East London; West London; the City of London ....(Pop. 374,759)	161
EAST—Shoreditch; Bethnal Green; Whitechapel; St. George in the East; Stepney; Poplar ....(Pop. 393,247)	220
SOUTH—St. Saviour; St. Olave; Bermondsey; St. George, Southwark; Newington; Lambeth; Wandsworth and Clapham; Camberwell; Rotherhithe; Greenwich ....(Pop. 479,469)	238
Total	970

CAUSES OF DEATH.		Av. of 5 Sum.
ALL CAUSES	970	972
SPECIFIED CAUSES..............	969	968
1. *Zymotic* (or Epidemic, Endemic, Contagious) *Diseases* ..	338	257
Sporadic Diseases, viz.—		
2. Dropsy, Cancer, &c. of uncertain seat	45	45
3. Brain, Spinal Marrow, Nerves, and Senses	94	120
4. Lungs and other Organs of Respiration	76	80
5. Heart and Bloodvessels	28	28
6. Stomach, Liver, and other Organs of Digestion	70	79
7. Diseases of the Kidneys, &c...	11	8
8. Childbirth, Diseases of the Uterus, &c..................	5	10
9. Rhematism, Diseases of the Bones, Joints, &c.	3	7
10. Skin, Cellular Tissue, &c.......	2	1
11. Old Age	25	50
12. Violence, Privation, Cold, and Intemperance	13	8

The following is a selection of the numbers of Deaths from the most important special causes:

Small-pox	35	Paralysis........	16
Measles	15	Convulsion......	40
Scarlatina	100	Bronchitis	35
Hooping-cough..	25	Pneumonia......	27
Diarrhœa	57	Phthisis	152
Cholera	7	Dis. of Lungs, &c.	7
Typhus	65	Teething........	10
Dropsy..........	10	Dis. Stomach, &c.	3
Sudden deaths ..	1	Dis. of Liver, &c.	13
Hydrocephalus..	35	Childbirth	3
Apoplexy........	15	Dis. of Uterus, &c.	1

REMARKS.—The total number of deaths was about equal to the summer average. The most remarkable feature in this week's mortality is the extraordinary increase of deaths from scarlet fever.

We have to call the attention of the Registrar-General to an error in his table. The average mortality of 5 Springs (943) is retained under the head of 5 Summers, whereas the summer mortality is higher—972.

METEOROLOGICAL SUMMARY.

Mean Height of Barometer			29·84
" " Thermometer[a]			63·
Self-registering do.[b]	max. 100·9	min.	33·
" in the Thames water	— 67·	—	61·5

[a] From 12 observations daily. [b] Sun.

RAIN, in inches, 0·16: sum of the daily observations taken at 9 o'clock.

Meteorological.—The mean temperature of the week was 2° above the mean of the month.

BOOKS RECEIVED DURING THE WEEK.

Dr. Ashwell's Practical Treatise on Diseases peculiar to Women. 3d edition.

The Baths and Watering Places of England. By Edwin Lee.

On the true Pathological Nature of Cholera, and the mode of treating it. By G. S. Hawthorne, M.D.

Practical Observations on the Effects of Chloroform in Cases of Natural Labour. By J. H. Stallard, M.R.C.S. &c.

Comptes Rendus, No. 25, 19 Juin 1848.

The Dublin Medical Press, July 12.

General Index to the British and Foreign Medical Review. Edited by John Forbes, M.D. Vol. 25.

A Plain Statement with reference to Medical Reform. By Edwin Lee.

*** This and two other pamphlets on Medical Reform by the same author are, we understand, gratuitously distributed to the profession on application to the publisher, Mr. Churchill.

NOTICES TO CORRESPONDENTS.

If a Third Year's man will address a letter to the author of the work privately, it will, we are sure, procure him the information which he desires.

The communication which we have received from Upton-on-Severn, did not reach us until our pages were quite full.

Dr. Letheby's communication next week.

Lectures.

COURSE OF SURGERY,

Delivered in the years 1846 *and* 1847,

By Bransby B. Cooper, F.R.S.
Surgeon, and Lecturer on Surgery at Guy's Hospital.

Lecture XXXII.

SURGERY OF REGIONS.

CONTINUATION OF THE LARYNGO-PHAYNGEAL REGION.

Wounds in this region. Extraction of foreign bodies lodged in the rima glottidis. Symptoms of the intrusion of a foreign substance—case. Fixed bodies in the air-tube—treatment—cases. Foreign substances impacted in the bronchi—mode of removal by forceps. Mr. Liston's case—intrusion of coins—case—necessity for an artificial opening, before attempts be made to extract the substances through the glottis. Suffocation from the presence of extraneous substance not common asphyxia. Opening in the trachea for œdema, or ulceration of the arytenoid cartilages. Opening the œsophagus.

Tying the carotid artery above the omo-hyoideus—mode of proceeding. Tying the artery below the omo-hyoideus. Method of operating—general precautions. Diagnosis in abscess of the region—case. Supra-clavicular region—*its limits. Tying subclavian artery—mode of operating—precautions. Laceration from wounds—case. Tumors—difficulty in their diagnosis—removal. Wry neck—cause—treatment.*

Posterior region of the neck. *Unimportance of the surgery of this region. Carbuncle. Danger of wounds in this region.*

Continuation of the Laryngo-pharyngeal Region.—Incisions between the cricoid cartilage and trachea immediately destroy the voice, as the expired air rushing through the wound prevents the vibration of the vocal chords. Wounds in this situation are extremely dangerous, as the parts offer very little resistance to the cutting instrument, which, therefore, frequently penetrates to a sufficient depth to divide the carotid artery and jugular vein, which would necessarily prove immediately fatal; but should these vessels escape, the division of the inferior laryngeal nerve might lead to suffocatión, from the inability to cough up the blood through the paralysed trachea.

It is in this situation that the operation of opening the windpipe is performed, when a foreign body has passed into the glottis, and is lodged in the rima glottidis. This part is selected, as it affords an immediate opening for the passage of the air, and is at the same time conveniently situated for the dislodgement of the extraneous matter. When, however, œdema of the glottis occurs from swallowing acids or hot water, the opening should be made in the trachea, as the part just mentioned may participate in the swelling.

If any portion of the space between the cricoid cartilage and sternum be wounded, the trachea can scarcely escape; the œsophagus is also likely to suffer, and, from the comparatively superficial situation of the carotid arteries, they are very liable to be divided. It is also in this space that the windpipe is opened for the extraction of foreign bodies which have accidentally passed through the glottis. The symptoms which accrue from such an accident are frequently very insidious; but as the removal of the substance, if any should have entered the glottis, is absolutely imperative to save the life of the patient, the surgeon should make every exertion to ascertain with certainty whether any extraneous body has really intruded itself. The symptoms are usually as follows:—A child at play, having perhaps put beads or pebbles into its mouth, is suddenly seized with a violent fit of coughing of a most remarkable character: the eyes are staring; the vessels being turgescent, and the lips blue; and sometimes the child falls after a few moments from complete exhaustion. A surgeon is probably sent for; but when he arrives he often finds that the cough has ceased, and the other symptoms subsided, and, indeed, the patient appears to have recovered from the attack. This is, however, merely a deceptive calm, and the course of the trachea and bronchi should be examined with the stethoscope; and if the patient be old enough, he should be questioned as to whether he is conscious of any substance moving up and down the windpipe. Generally in such a case a flapping noise can be heard upon placing the ear over the cricoid cartilage: this is produced by the foreign body striking against the rima glottidis, and is generally followed by a recurrence of the fit of coughing. A repetition of these physical signs is quite sufficient to determine the diagnosis, and no time should be lost before means be adopted for the removal of the extraneous body. Some surgeons have recommended that the patient should be placed in the prone position, on an incline of 50° or 60°, with his head downwards; and while in this position, his shoulders should be struck for the purpose of dislodging the foreign body, if it

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should have become impacted in one of the bronchial tubes. It appears to me, however, that this mode of proceeding is extremely dangerous, unless an opening be first made in the trachea; for should the substance be driven by a violent effort to the rima glottidis, and become fixed there, there is not only imminent danger of the patient being suddenly choked, but also of some vessel in the head or lungs giving way under his efforts, particularly from the position in which he is placed.

In the well-known case of the eminent engineer who was under the care of Sir Benjamin Brodie and Mr. Key, all attempts to relieve the patient from the urgent symptoms failed, until an opening was made into the trachea. The reason for this seems obvious; for if, before an opening be made, the foreign substance be forced up to the rima glottidis, the air-tube is closed, and unless a powerful inspiration drives the substance back again, suffocation must immediately result: and even if the substance be dislodged, no permanent benefit can be derived; while, on the other hand, if after an opening be made the foreign body reaches the glottis, breathing is still carried on, and the rima glottidis remains quiescent, until, in the act of coughing, the arytenoid muscles perform the natural effect in enlarging the rima glottidis, and permitting the expulsion of the intruded body. A few months after the occurrence of the case above alluded to, a boy about fourteen years of age was sent up to me from Foots Cray, who said that he had got a pebble in his windpipe. He suffered, however, so little, and the stethoscopic signs were so equivocal, that I thought it possible he might have ejected the stone in a fit of coughing, and that the irregular sounds that did present themselves might depend upon the injury the foreign body might have inflicted upon the mucous membrane of the windpipe; although it must be observed that the patient himself felt convinced that the stone was still there. The next day Dr. Addison examined the boy with me, and as he distinctly heard the flapping noise I have spoken of, I determined immediately upon the removal of the stone. With this view I first made a longitudinal incision of about an inch and a half in length midway between the sternum and cricoid cartilage, and exposing the trachea, fixed it by means of a hook, while I divided with a sharp-pointed bistoury three of the rings. There was no bleeding to interrupt the course of the operation. The patient was then placed head downwards on an inclined plane, as already described, and in about three or four minutes the stone fell in the hand of Mr. Hilton, who was kindly assisting me. The boy experienced immediate relief, and recovered without the occurrence of one bad symptom. A piece of muslin was placed over the wound in the trachea, to prevent the intrusion of dust or any foreign matter, and the temperature of the ward was such as not to require to be raised artificially, to prevent the injurious effects which result from admission of cold air into the lungs; for it is to be remembered, that naturally the air becomes warm in its passage through the mouth, nose, and that portion of the air-tube above the opening which had been artificially made.

It sometimes happens that the bodies which intrude themselves into the trachea are of such shape and character, that they become at once fixed in the tube, instead of moving under the influence of respiration. Such bodies generally produce less immediate urgent symptoms than those that move in the air-tube, as they are not liable to adjust themselves to the rima glottidis, and the periodical spasms are consequently absent.

The mode of their removal, therefore, differs from that which has already been described; for it becomes necessary to extract them by means of forceps of various shapes, introduced into a factitious opening in the trachea. Mr. Liston has successfully removed a large piece of bone from the right bronchus of a female; and this is, I believe, the only instance in which the operation has ever been successfully performed. In the above-mentioned case, the extraneous substance had remained in the bronchus for six months, rendering the patient subject to frequent attacks of bronchitis, which were indeed threatening phthisis—a condition which induced Mr. Liston to recommend the operation as the only means of preserving life. In describing the operation, Mr. Liston states that the introduction of the forceps was productive of the most violent effects, but after the patient had recovered from the spasm which was at first excited, he ultimately succeeded in removing the substance, and the patient permanently recovered.

Small coins or similarly shaped substances may also require to be removed by the forceps; for if they become fixed edgewise in the tube, they do not move under the influence of respiration, and therefore can only be dislodged by mechanical means.

Mr. Key performed this operation on a man who had a sixpence in the right bronchus; but the patient died suddenly while under the operation. It appears to me that some very important pathological deductions may be made from these two last cases: in the first, the foreign substance had been sufficiently long in its situation to enable the mucous membrane to become in some degree adapted to its presence; while in the second, the parts remained in their normal highly sensitive condition, and unfitted to sustain the violence inseparable from the introduction of the forceps. This instrument should, therefore, in my opinion, never be employed, if the extraneous body moves within the trachea; for even if it be impacted in the rima glottidis, an opening in the trachea below it at once saves the patient from suffocation, and gives time for the change of position of the substance to be effected; while the introduction of forceps alone, produces such violent symptoms, as are of themselves sufficient to cause sudden death. This appears to result (as we frequently see in the fatal termination of tetanus), from violent spasmodic contraction of the glottis—an effect which cannot be referred to simple asphyxia; for in ordinary suffocation, some minutes will elapse before dissolution ensues; while in the above case, death is produced instantaneously. The immediate cause of death under these circumstances is yet quite inexplicable.

The operation of opening the trachea for diseases of the larynx is sometimes had recourse to, when, either from œdema about the glottis, or from ulceration of the arytenoid cartilages, difficulty of breathing becomes urgent; but most of these cases, particularly of the latter description, terminate fatally: I believe, however, generally because the operation is not had recourse to until the disease of the arytenoid cartilage has proceeded beyond the possibility of reparation: and I am inclined strongly to recommend the opening of the trachea at an earlier period, as it affords the only means of keeping the arytenoid cartilages in a state of rest —a condition essentially necessary to the recovery of every inflamed joint; and in this case such an operation affords the only means of obtaining the desired object. I have once succeeded in curing ulceration of the arytenoid cartilages by the above plan, with a rapidity that I have never known to result in any other mode of practice. I was consulted by an officer in the Indian service, who was sent home on sick leave, from protracted secondary symptoms; he had ulceration of the throat, attended by loss of voice, great pain of the larynx in speaking, and even in forced respiration; and upon grasping the larynx the pain was greatly increased. I prescribed iodine, iodide of potassium with opium, and the remedies usually employed in such cases; the ulcers in the throat healed under this treatment, but the laryngeal symptoms increased in urgency. I proposed to make an opening in the trachea, and when I explained the object of this operation, my patient readily consented, and in the course of three months he had completely recovered, with the exception of a slight alteration in his voice, which proceeded probably from anchylosis of the left arytenoid with the cricoid cartilage. My colleague, Mr. Cock, has within the last two years saved the lives of several children by opening the trachea to relieve the violent dyspnœa arising from the œdema caused by swallowing hot water: in this case the relief is not merely that derived from the admission of air into the lungs, but also from the quiescent state in which the parts are allowed to remain.

Foreign bodies sometimes lodge in the œsophagus in this region of the neck, and from being tightly impacted they resist the application of the probang: under these circumstances, their removal is effected by cutting down to the œsophagus at the point where the body is felt, making the incision, however, at the left side of the trachea: the substance must be removed by forceps. Considerable precaution is requisite in exposing the œsophagus, not only from its natural proximity to the carotid sheath, but because in its dilated state it encroaches still more on that artery.

The supra-sternal fossa, which I have already spoken of as being placed at the inferior extremity of the triangular space comprising the anterior region of the neck, is sometimes the seat of abscess; and when the matter escapes externally from this point (which often happens from ulceration of the fascia), there is some difficulty in healing the wound, owing to the mobility of the part. Great inconvenience also arises from the difficulty of breathing and alteration in the voice: from the trachea having lost its support from the fascia, the pressure of the atmosphere interferes with the natural functions of the canal: such abscesses are frequently connected with the absorbent glands and loose cellular membrane of the anterior mediastinum.

In stating the limits of the anterior cervical region, I mentioned that it was bounded on either side by a deep sulcus, in which the carotid arteries may be seen pulsating as they take their course from the chest to the thyroid cartilage, where the common carotids terminate by dividing into the external and internal carotid branches. It is in this course that ligatures are applied to the common carotid in cases of wounds, aneurism, and in some cases where the supply of blood to a diseased structure appears to maintain the abnormal condition.

The carotid artery may be tied in any part of its passage through the sulcus, but as the omo-hyoideus muscle, in its course from the os hyoides to the shoulder, crosses the carotid sheath, the application of a ligature on the artery above that muscle is termed the high, while that below is contradistinguished as the inferior operation.

The carotid artery in these two situations is very differently placed with respect to the structures that cover it: above the omo-hyoideus and the cricoid cartilage, it is only covered by the skin, platysma myoides, and fascia of the neck; but still it is not so superficially placed as in the dead subject it would appear, for by the contractions of the sterno-cleido-mastoideus muscle, and the motions of the larynx during life, the relative depth of the vessel is continually changing.

Below the omo-hyoideus muscle, between that and the sternum, the carotid is much more deeply seated, and is covered by the sterno-cleido-mastoideus, sterno-hyoideus, and sterno-thyroideus muscles, as well as by the skin, platysma myoideus, and cervical fascia.

Within the carotid sheath (a covering produced by the deep fascia of the neck) is placed not only the artery, but also the internal jugular vein and pneumo-gastric nerve: the former lying on the tracheal or inner side, the vein on the outer, and the nerve between the two.

Operation of tying the carotid artery above the omo-hyoideus.—The patient should be placed in the recumbent position, with the neck extended and the head turned towards the opposite shoulder; an incision is then to be made, about two inches and a half long, commencing a little below the angle of the lower jaw, and continuing as low as the inferior edge of the cricoid cartilage—occupying the mid space between the anterior edge of the sterno-mastoideus muscle on the outer side, and the os hyoides and larynx on the inner: this first incision is to cut through the skin and platysma myoides, and expose the deep fascia of the neck, which is also to be divided to the same extent, and in the same direction, taking care to avoid as much as possible the venous trunks that may cross in the direction of the incision. The edges of the wound should now be drawn asunder by broad retractors, when the carotid sheath is exposed; and usually the descending branch of the lingual nerve will be seen crossing the sheath from without to within, in the upper part of the exposed space. The sheath is now to be opened very cautiously, by raising a portion of it on the laryngeal side with a pair of forceps, and a small opening being made, a silver director is to be introduced, by cutting down upon which, the opening may be enlarged for the purpose of laying bare the artery: this being effected, an aneurismal needle is then to be passed beneath the vessel, being directed from without to within; the point of the needle is kept close to the artery, so as to preclude the liability of including the pneumo-gastric nerve. The needle is usually armed with the ligature before it is passed under the artery, but I am in the habit of first passing the needle, as its passage is much easier without the silk, which I introduce when the instrument is beneath the vessel. After this, nothing remains but the tightening and tying the ligature, having first carefully ascertained that the artery alone is included. The edges of the wound are now to be brought together, and maintained by one suture in the centre, and by strips of adhesive plaster. When the patient is placed in bed his head should be well supported, and maintained in such a position as to relax all the muscles of the neck. Much is said by surgeons of a difficulty arising in this operation from the distension of the jugular vein, but I have three times tied the carotid artery without having in either instance even seen the vein; indeed, I believe this may generally be prevented by making the opening into the sheath on its laryngeal side. Directions are also given to avoid the sympathetic nerve in passing the needle under the vessel, but as this nerve is not within the carotid sheath, but lies completely behind it, such precautions seem to me unnecessary.

Tying the carotid artery in the inferior region of the neck.—In this, as in the operation just described, the patient should be placed in the recumbent position—a position which I prefer, indeed, in all operations, when admissible, as in the sitting posture a fixed point is obtained for the full force of voluntary muscular action, while, when lying, the patient is deprived of such *point d'appui*, and is therefore rendered comparatively helpless. The head and neck must be placed in much the same position as before described, but hardly so extended an incision is required; it should commence opposite the cricoid cartilage, and be continued downwards to within somewhat less than an inch of the sterno-clavicular articulation, taking the course of the inner edge of the sterno-mastoid muscle. The skin, platysma myoides, and superficial fascia, are divided by the incision, and the edge of the sterno-cleido-mastoideus exposed. along which a vein of considerable size is generally seen: this must be avoided: the muscle and the vein are to be drawn outwards, and the sterno-hyoideus and the sterno-thyroideus inwards, by means of retractors. At the upper extremity of the wound the omo-hyoideus muscle is seen crossing the vessels, and is connected by the deep cervical fascia to the sheath of the vessels; this fascia being divided below the muscle, the carotid sheath, with the lingual nerve lying on its inner side, is exposed; the sheath is next to be opened, and the ligature passed around the artery in the manner before described. When this operation is performed upon the left side of the neck, there is certainly some difficulty, from the comparatively superficial situation of the jugular vein, which partially covers the artery, and therefore extreme caution is required to avoid injuring it.

The internal jugular vein is sometimes subject to dilatation, so that the swelling presents itself in the carotid sulcus, and, indeed, may offer considerable difficulty to the surgeon to distinguish it from disease of the carotid artery itself, as, from the vicinity of the swelling to that vessel, it more or less partakes of its pulsating nature. A patient was admitted into the London Hospital, with a swelling about the size of an egg on the right side of the neck, which was at first suspected to be carotid aneurism: upon further examination, however, it was believed, from the softness of the tumor, the facility with which it was emptied, and the slight pulsation which it afforded, and that, not being quite synchronous with the action of the heart, that it was disease of the vein, and not of the artery; the absence of the *bruit de soufflet* also tended to confirm this view. The patient died a short time after, of disease of the lungs, and the diagnosis was found to be correct.

Burns, in his work on the Head and Neck, mentions instances of dilatation of the internal jugular vein forming a pouch of considerable size behind the angle of the lower jaw, but he does not mention that the tumor partook of the pulsation of the carotid artery; and, therefore, the diagnosis would be more easy here than if it occurred lower down in the neck, where the proximity of the two vessels is so much greater.

Strumous abscesses of the neck may sometimes lead to ulceration of the carotid artery, producing spurious aneurism. The well-known case of Mr. Liston is worthy of attention. An attempt to attach blame to *him* was made on that occasion, but a short history of the case will, I think, prove that this was great injustice. A child of highly strumous habit, with several cicatrices on the neck, indicating that the strumous tendency had been of long duration, was admitted into the North London Hospital. The patient had a fluctuating tumor on the neck, in which the house-surgeon had discovered a pulsatory motion; and on Mr. Liston's visit he mentioned the circumstance to him. Mr. Liston, however, considering the youth of the patient, the proof of the existence of former abscesses, and the unheard-of existence of aneurism at so early an age, and believing that the pulsation was merely communicated to the mass, and did not arise from the opening of any vessel into it, evacuated the contents of the swelling; arterial blood rushed from the wound, which was directly closed, so as to stop the hæmorrhage; and the next day the carotid artery was tied. It may be said, truly, that Mr. Liston's great scientific knowledge brought him into this dilemma: the rare occurrence at any time of life of the ulceration of an artery from abscess, the peculiar diathesis and temperament of the patient, the frequency of a pulsating motion being communicated from an artery to a tumor in its neighbourhood, and a knowledge that nothing else could be done than tie the artery (if it should prove to be aneurism), led him into the error. The exploration does not, therefore, deserve the condemnation that has in some instances been attached to it. The case will, however, afford ample instruction to you, gentlemen; pointing out the paramount necessity for the closest investigation before you attempt to open an abscess in the vicinity of a great artery.

Supra-clavicular region.—This is a small triangular space above the clavicle, bounded on the inner side by the sterno-cleido-mastoideus, on the outer by the trapezius muscles, and is terminated above by the approximation of the two. The passage of a portion of the subclavian artery through this space renders it especially important to the surgeon. At this point of its course the subclavian artery can be pressed against the first rib, so as to command it, during operations in which it is requisite that the flow of blood through this vessel should be checked. It is here also that a ligature is applied to the subclavian in cases of wounds or disease of the axillary artery. The application of the ligature is performed as follows:—The patient is to be placed upon a table in the recumbent posture, and the shoulder on the diseased side must be forcibly pressed backwards, the arm being drawn downwards and held close to the side, for the purpose of depressing the clavicle. The skin is then to be drawn downwards tightly over the clavicle, and when thus stretched, an incision is to be made, commencing at the external edge of the mastoid muscle, and extending to the anterior margin of the trapezius; or, if the latter should encroach so much upon the sterno-cleido as to leave but a small space between them, some of the fibres of the trapezius must be cut through so as to give sufficient room: by this incision both the skin and platysma myoides must be divided. As the skin is tightly stretched when the incision is made, the moment it is divided, the upper segment retracts, owing to its elasticity, and a wide opening is formed, exposing the loose cellular tissue beneath, as well as the external jugular vein, which will be seen lying close to the mastoid muscle. The next object in the operation is to expose the external edge of the scalenus anticus muscle, which is easily recognised from its glistening tendinous structure; to reach this muscle, the cellular tissue must be cleared away with the handle of the knife, deepening the wound in a direction parallel with the outer edge of the sterno-cleido-mastoideus, in the course of which muscle the skin may be further divided upwards if more room be required, and thus the object of search, the scalenus anticus muscle, may be brought into view. A deep triangular space is now exposed, of which the scalenus anticus forms the inner, the omo-hyoideus the outer, and the first rib the lower boundary, and it is in this triangle that the portion of the subclavian artery to be secured is situated. The artery may be here immediately detected by pressing the finger upon the first rib, when the pulsations will be readily felt. With the finger-nail or a director the cellular tissue, which ties the artery down to the rib, is now to be detached, and an aneurismal needle passed under the vessel, the point being directed from before backwards, and from below upwards, so as to preclude the liability of including the vein.

The operation has thus been divided into three steps, in each of which specific dangers may arise. In the first incision, the external jugular vein may be divided. To avoid this, the course of the vein should be accurately ascertained previously, that you may modify your incision accordingly. This accident did occur to a surgeon in St. Petersburgh, the result of which was instantaneously fatal, from air rushing into the vein and filling the right auricle of the heart. In the second step, the first object is to expose the scalenus anticus, which affords an infallible guide to the precise situation of the subclavian artery. In seeking the scalenus, which is indeed "the landmark" in the operation, care must be taken that its tendinous outer edge only is exposed; for if you work too much inwards—that is to say, under the mastoid muscle—you are likely to expose and injure the phrenic nerve which lies on the central part of the scalenus. Some years ago I performed this operation on a clergyman, in the presence of the late Dr. Babington and Mr. Travers: no difficulty whatever occurred; but immediately after its completion, the patient was seized with a constant hacking cough, as if resulting from convulsive motion of the diaphragm. This scarcely ceased night or day until the sixth day after the operation, when he died. No post-mortem examination was permitted; but there can be no doubt in my mind but that the phrenic nerve had been injured, although it could not possibly be included in the ligature.

In the third step—viz. that of applying the ligature to the artery—the principal danger is the liability of including the first dorsal nerve with the artery, or taking it up instead of that vessel, for it is placed in close contiguity above and to its outer side. I have seen this nerve taken up instead of the artery, by a most excellent surgeon, but the ligature was cut off again, and, the artery being secured, the patient recovered. A case is recorded where this accident happened, and in which the ligature was left upon the nerve, when abscess on the brain followed, and the patient died. The subclavian vein can hardly be endangered during the application of the ligature, as it is much anterior to the artery, being separated from it by the scalenus anticus muscle. The precaution of passing the needle from before to behind is alone sufficient to protect this vessel from inclusion.

The operation in thin persons, and when the clavicle is not much raised by the aneurismal tumor, is not to be considered difficult; but in stout people, and where the clavicle is much elevated, it is perhaps the most difficult of surgical operations; and in some cases, indeed, the difficulties have proved insuperable. Various ingenious mechanical contrivances have been invented for the purpose of seizing the ligature after the aneurismal needle has been passed under the artery, and this is often by far the most difficult part of the whole operation. Sometimes the superior dorsal artery of the scapula is so much enlarged, from the obstruction to the flow of the blood through its natural channel, that it may be mistaken for the subclavian; but its comparatively superficial position would to an anatomist preclude the possibility of such a mistake. Care should be taken not to injure this vessel in the operation, as it constitutes one of the great sources of blood to the upper extremity after the subclavian has been tied.

Wounds in the supra-clavicular region may lead to the laceration of the subclavian artery or axillary nerves; but still they are so defended by the clavicle, that their laceration can scarcely occur immediately from an external force, but is most frequently produced from the bone itself being broken, the sharp fractured extremities lacerating them. The following case of this kind was admitted under my care at Guy's Hospital:—William Morgan, a sailor, 18 years of age, had fallen from the mast-head of a vessel upon a "belaying pin," which entered his chest just above the clavicle, and, penetrating about seven inches, broke off, and the boy was precipitated into the Thames. He was immediately picked up and conveyed to the house of Mr. Randall, a surgeon at Rotherhithe, who extracted the fragment of the pin by employing considerable force, which was followed by profuse hæmorrhage. Upon his admission into the hospital, he complained of great pain in the shoulder, and an uneasy sensation in the abdomen; there was also considerable contusion about the head. A large lacerated opening presented itself above the clavicle, of the breadth of three fingers. Through this the clavicle might be felt broken into two or three portions, and the subclavian artery was perfectly laid bare, as it passed over the first rib. There was emphysema extending from the neck down the side and back. The surface of the body was cold, and the abdomen tympanitic, with partial priapism. The edges of the wound in the supra-clavicular region were partly brought together by strips of adhesive plaster, an opening being left to permit of the exudation of blood. Julep. Ammon. was given, in the hope of producing reaction, and fomentations were applied to the abdomen. He sunk, however, the day after the accident. On examination of the body, it was found that the wound extended from the left clavicle into the axilla, and the subclavian artery was lacerated. On further dissection, it was proved that the wound extended from the axilla into the chest between the third and fourth ribs, penetrating the lung; and a piece of cloth torn from his jacket by the pin was firmly fixed in the wound, forming a plug, which probably prevented immediate death from hæmorrhage. On opening the abdomen, the spleen was found lacerated on its inner and posterior surface. In this case, had there been no laceration of lung or spleen, and had hæmorrhage occurred on reaction, a ligature upon the subclavian artery might have saved the life of the patient.

Tumors sometimes form in the superclavicular region, and, as they may possibly gain a pulsatory motion from the subclavian artery, they may perhaps be mistaken for aneurism of that vessel; and in this situation I have known abscesses, glandular enlargements, and exostoses, lead to great diagnostic difficulties.

High up in the lateral region of the neck, between the trapezius and sterno-cleido mastoidei muscles, tumors are frequently seated. These are generally glandular enlargements, but are sometimes of a fluctuating character, when it becomes difficult to decide whether the swelling is chronic abscess or an adventitious serous cyst. The latter I have termed hydrocele of the neck. Two of these cases have occurred in the course of my practice, both of which were cured by the application of setons, and are related in Guy's Hospital Reports, vol. i. p. 105. In the dissection of tumors from this region, or indeed from any part of the body in which large vessels or nerves are situated, the surgeon should always be prepared with strong hooked forceps to draw the tumor from its bed as soon as it has been exposed; and in the dissection the edge of the knife should always be directed to the tumor, as if the surgeon were dissecting the neighbouring parts from the tumor, rather than the tumor from the parts. The most common operation in this region is, however, phlebotomy of the external jugular vein. The vessel is here placed beneath the platysma myoides muscle, and both decision and precision are required to enable the surgeon to lay open the vein.

In cases of wry-neck, division of the sterno-cleido mastoideus is sometimes recommended; but if the distortion has resulted without any external injury, as from burns or cicatrices from other causes, the operation is useless, as the deformity most likely depends upon disease of the cervical vertebræ or the spinal nerves. The diagnosis may be very difficult to ascertain whether the distortion results from paralysis of the opponent muscle, or spasm of that affected; and, if the latter, whether the affection be idiopathic or sympathetic. If paralysis be suspected, electricity, strychnia, blisters, and the internal administration of mercury, are indicated; but if the contraction results from the muscle itself, its division, and, at the same time, that of the accessory nerve which passes through it, may be had recourse to.

Contractions after burns may also lead to operations in any region of the neck, as the resulting deformities may affect most important vital functions; for when the chin is drawn downwards towards the sternum by the violent contraction of the cicatrices, deglutition and respiration are interfered with, and the voice becomes altered. From the tendency to eversion of the lower lip, the saliva is constantly flowing from the mouth, and the deformity renders the unfortunate object unfitted for social life. Division of the cicatrix is not sufficient permanently to remove these distortions, as the muscles have usually become permanently shortened, so as to have adapted themselves to the abnormal condition of the parts. Portions of them, therefore, or indeed the entire muscle, where it is not of any great dimensions, should be divided by transverse incisions, as the tissue which re-unites them, being always incapable of contraction, may check the liability to the recurrence of the deformity; and if the healthy part of the muscle still has a tendency to contract, the elasticity of the re-uniting medium will offer but little resistance to the subsequent means employed for the purpose of preventing the drawing down of the head. In the neck I believe it is the platysma myoides muscle, and not the contraction of the granulations, which produces the deformity; for extension alone during the granulating process after burns will scarcely ever prevent the occurrence of these contractions.

Before dismissing the region of the neck, gentlemen, I will for a moment recal your attention to the circumstance of its being frequently the seat of the attempts both of the assassin and the suicide: it may also frequently be the object of the former to endeavour to impress the belief that death had been produced by the hand of the individual himself; and it is therefore highly important that you should make yourselves thoroughly acquainted with the signs that will enable you to judge of the nature of the case, as to whether the violence was inflicted before or after death. I can do no better than to refer you to the excellent work on medical jurisprudence by my colleague, Mr. Alfred Taylor, which is as frequently found in the library of the barrister as in that of the surgeon. This fact will convince you of the necessity of rendering yourselves fully conversant with the subject, or you may find, in a court of justice, that the lawyers are better acquainted with it than yourselves.

THE POSTERIOR REGION OF THE NECK.

This region offers but little opportunity for surgical remark, the blood-vessels being comparatively unimportant in this aspect, so that wounds offer no difficulties with reference to hæmorrhage; but it may be noticed that the strong fascia of this region may somewhat interfere with the re-union of wounds of the parts. Particular notice is, however, required in reference to this region, as it is the frequent seat of carbuncle, and probably the severer symptoms attending the disease in this part of the body are also attributable to the low degree of vital power possessed by the fascia so abundantly developed in this region. The treatment of the disease I have already described in Lecture XIII. Deep sinuous ulcerations also frequently occur in this region, depending either upon sloughing of the ligamentum nuchæ, or, not unfrequently, upon disease of the vertebræ. The disease is extremely difficult to cure, requiring free incisions for the ready removal either of the sloughing tendon or bone, whichever may be the cause of the malady. The part of this region most assailable, and where wounds are most dangerous, is its upper extremity, between the atlas and vertebra dentata. In this space the spinal marrow is only protected from external injury by soft parts, so that a deeply penetrating wound might at once divide the spinal marrow, and produce immediate death.

LECTURES
ON THE
DISEASES OF INFANCY AND CHILDHOOD,

Delivered at the Middlesex Hospital.

By Charles West, M.D.

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Lecture XXXIV.

Peritonitis—rare in childhood, but sometimes occurs during fœtal existence, or in very early infancy—is then possibly dependent on syphilitic taint—when epidemic in large institutions, is often connected with infantile erysipelas.

Peritonitis in after childhood—generally secondary to some febrile attack—case illustrative of its symptoms, which are much the same as in the adult—occasional escape of the fluids effused through the abdominal walls, and recovery of the patient. Inflammation sometimes circumscribed, especially in connection with disease about the appendix cæci—illustrative case—treatment.

Chronic peritonitis—almost always a tubercular disease. Morbid appearances—symptoms—their vagueness—pauses in the advance of the disease—close analogy between its symptoms and those referred to tabes mesenterica—considerable tubercular disease of those glands rare—slightness of its symptoms when uncomplicated. Treatment of both affections.

From the study of the affections of the mucous lining of the intestinal canal, we pass by a natural transition to that of the diseases of its serous investment. *Peritonitis*, however, which is not very common as an idiopathic affection at any period of life, is still more rare during the greater number of the years of childhood; while its symptoms do not deviate in any important respect from those which characterize it in the adult. It would be idle to spend our time in speculating on the reasons for the rarity of inflammation of the peritoneum in early life. The tendency of inflammatory disease in childhood appears, indeed, to be to attack the mucous rather than the serous membranes; a fact of which we have another illustration in the comparative rarity of acute pleurisy in the child. Some connection may perhaps be thought to subsist between the great irritability of the intestinal mucous membrane, and its proneness to disease during the greater part of childhood, and the immunity from it which the peritoneum exhibits during the same period. At any rate, it is certain that in the new-born infant, in whom the former peculiarity has not yet become developed, inflammation of the peritoneum is of more common occurrence than in subsequent childhood.

Inflammation of the peritoneum, giving rise to adhesions between the intestines, and to the effusion of lymph and serum into the cavity of the abdomen, occurs sometimes even *during intra-uterine life*, and occasions the death of the fœtus. It is not possible to say with certainty to what cause the disease should be attributed, at a time when the being is sheltered from all those influences from without which may excite inflammation after birth; but it is worthy of notice that in many instances of peritonitis in the fœtus, traces of syphilitic disease are observed upon it; or there is clear evidence of the existence of venereal taint in the mother. In such cases, the inflammation of the serous lining of the abdomen is probably due to the altered state of the circulating fluid—a cause to which, in after-life, inflammation of the serous membranes is frequently owing. In the only instance of non-congenital *peritoneal inflammation* that has come under my notice *in early infancy*, there was no other cause than this to which it could be attributed.

In this case, a little boy, five weeks old (whose mother had twice before been confined prematurely with still-born children), began to have snuffles at the age of three weeks. In the course of the next week a few copper-coloured spots appeared about his face; his scrotum next grew sore, then his voice became hoarse and his lips cracked; and at the end of the fourth week he grew sick, and his abdomen enlarged and became tender. When brought to me the child was extremely small; he was greatly emaciated; the skin of his face wrinkled; his appearance distressed; his chin covered with copper-coloured blotches; the angles of his mouth ulcerated; his lips cracked; and small sores beset his scrotum. His abdomen likewise was very large: it was remarkably prominent about the umbilicus, and its superficial veins were much enlarged. It was extremely tense, somewhat tympanitic; and though dull in places, it yet did not yield the impression of distinct fluctuation anywhere. The abdomen was exceedingly tender to the touch, but the child seemed in pain also at other times; he had been very sick for nearly a week, vomiting almost immediately after sucking, and likewise throwing up a yellow fluid at other times. The bowels were purged several times a day. The mother, who did not suffer at that time from any syphilitic symptom, was put upon a mild mercurial course, with iodide of potassium and sarsaparilla; and the mercury with chalk was likewise administered to the child. By degrees, as the syphilitic spots faded, the abdomen grew less tender and less swollen, it became soft; and in the course of time the infant regained perfect health.

The symptoms in this case ran a chronic course; but peritonitis of an acute character, and tending to a rapidly fatal termination, is sometimes observed to occur among very young infants when collected together in large numbers, and under conditions unfavourable to health. A French physician, M. Thore,[*] during a year's observation at the Hospice des Enfans Trouvés at Paris, found that acute peritonitis existed in about six per cent. of the infants who died at that institution. The disease, such as he observed it, seems to be exclusively an affection of early infancy, since, though the hospice contains children of all ages, yet no child above the age of ten weeks was attacked by it, while thirty-five out of fifty-nine were less than a fortnight old. The previous health of the children had in some instances been good, but in many cases the peritonitis appeared as a consequence or complication of some other affection. A sudden tympanitic swelling of the abdomen was often the first symptom of the disease, and was soon associated with vomiting of a greenish matter; which pheonomenon, however, was seldom of long continuance. The bowels were generally constipated throughout, the respiration and pulse soon became accelerated, and the heat of skin increased, while the child evidently suffered pain in the abdomen. With the advance of the disease the countenance altered, the skin grew cold, and the pulse feeble; and in the majority of cases the child died within twenty-four hours, while life was not in any instance prolonged beyond the third day.

The appearances found after death were much the same as those which characterize peritonitis in the fœtus. In none of the sixty-three cases which were examined was there any puriform matter in the abdominal cavity, but only a dirty serous fluid, in which flocculi of lymph were often floating; while the intestines were more or less coated with false membrane, which was especially abundant about the spleen and liver. Pleurisy was found associated with the peritonitis in a third of the cases, and the frequency of this complication is another point of resemblance between the disease as it occurs during fœtal life and in early infancy. Its causes, too, appear to be such as act through the medium of the circulating fluid; for in seventeen out of sixty-three cases the peritonitis followed on erysipelas, and in four on phlebitis of the umbilical vein—affections which, it is known, are immediately dependent on epidemic causes, and are excited by the same atmospheric conditions as induce puerperal fever in lying-in women. The influence of such agencies is still farther shewn by the fact that forty-two per cent. of the cases of peritonitis recorded by M. Thore occurred during the months of April and May, while the others were somewhat unequally distributed over the remainder of the year.

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[*] De la Péritonite chez les Nouveau-nés, in the Archives Gen. de Med. for Aug. and Sept. 1846.

When the child grows older it is no longer so susceptible of noxious influences as before; and when they come into play, the mucous membrane of the bowels suffers rather than their serous investment. Hence acute idiopathic *peritonitis* becomes a very rare disease *in childhood;* and peritoneal inflammation usually occurs as a sequela of some affection which has been attended with considerable alteration in the circulating fluid. It sometimes succeeds to an attack of scarlatina; and the possibility of its occurrence should lead us to look with great suspicion upon any complaint of pain in the abdomen made by children during their convalescence from that disease; while, though the danger of its supervention after other febrile affections is less considerable, the risk is by no means to be forgotten.

The *symptoms* and course of the disease appear to be much the same whether it occurs as a primary or as a secondary affection; but there is a great difference between the severity of the symptoms and the amount of danger to which the patient is exposed, in different cases.

I do not recollect ever to have witnessed more intense suffering than was endured by a little boy, nine years old, who, after recovering from fever, yet seemed to regain his health by but slow degrees, and had almost habitual constipation. He came under my notice on May 25, and was much benefited by alterative and slightly aperient medicines; when he was suddenly, and without any known cause, seized on the 3d of June with profuse diarrhœa, and severe pain in the abdomen. On the following day, when I saw him, his face was haggard and anxious, and his abdomen excessively tender; while the diarrhœa continued even more profusely than before. Some leeches were applied to the abdomen, and calomel and Dover's powder were given every four hours; but the leeches drew but little blood, and though the purging ceased, the pain in the abdomen increased in severity. On the 5th of June I found the boy lying on his back, with his legs stretched straight out; while the slightest movement, or any attempt to sit up, produced excruciating pain. The abdomen was tympanitic, very tender to the touch, and especially so just below the umbilicus. The pulse was frequent and sharp; the tongue moist, and uniformly coated with yellow fur. Leeches were again applied, in greater numbers than before; and the mercurial was given every three instead of every four hours. Towards evening he was rather better, but the pain came on severely in the night, and was aggravated in paroxysms,—being referred especially to the neighbourhood of the umbilicus. He had passed no urine for many hours, but only half a pint was drawn off by the catheter, and this was dark coloured, and had a very strong smell. The bowels had acted only once, and then scantily. The same remedies were continued, but the child's condition continued to grow worse; and during the night he was in such pain that he frequently shrieked aloud so as to alarm the neighbours. On the morning of the 7th he had turned round upon his right side, and lay with his knees drawn up towards his abdomen, his head supported in his mother's lap,—his face expressive of the most intense suffering; and he was shrieking frequently with pain. The abdomen was much distended, and so tender that it could not endure the slightest touch. The pulse had become frequent and thready. He had made water twice of his own accord. The abdomen was now covered with a large blister; beef-tea and brandy were given to support the vital powers; and while the mercurial was continued, an endeavour was made, by a full dose of opium, to procure a temporary abatement of the child's sufferings. When seen at 6 P.M. he had vomited frequently a dark-green fluid, and had passed three natural liquid evacuations. He was lying in the same attitude as before, dozing with half-closed eyes, his forehead wrinkled, the corners of his mouth drawn down, terror and pain stamped on his countenance,—seeming as if dying, till roused by a return of pain, when he called with loud and piteous cries on his mother for help. His pulse was now smaller, and more thready. During the night his sufferings were unceasing; towards morning he became quieter, and died quietly at 9 A.M., on June the 8th.

On opening the abdomen, thin pus, unmixed with lymph, poured forth in great abundance. It quite concealed the intestines from view, and must have amounted to at least a quart. The peritoneum lining the abdominal walls was highly vascular, especially in the hypogastric region; that covering the intestines had lost its natural transparency, was softer, and seemed thicker, but not much injected. There was no lymph effused on any part of the parietal peritoneum, nor were there any adhesions between the intestines; but the spleen and liver, the latter, especially on its convex surface, were coated with lymph. The whole tract of the intestines was examined with great care, and was found to be quite healthy; the mucous membrane being rather pale. There was some crude tuberculous matter in the mesenteric glands. The right side of the chest contained a pint of pus, similar to that in the abdomen; the pleura presented a general intense vascularity, especially remarkable in that lining the diaphragm; and there was a patch of lymph, of small extent, forming a connection between the two surfaces of the lung; while the right lung generally had a rather thick coating of false membrane. Some tubercles in the bronchial glands, and a compressed state of the substance of the right lung, formed the rest of the morbid appearances.

There can be no doubt but that in the early stages of this case a more active plan of treatment ought to have been adopted. It is related, however, not as an illustration of the therapeutical principles by which you should be guided, but as affording a remarkably good specimen of the symptoms of acute peritonitis. The inflammation of the pleura was doubtless secondary to that of the peritoneum, and the effusion into the cavity of the chest probably coincided with the time when the child assumed the position on his right *side*. We learn from this case, that pain, coming on suddenly, referred particularly to one part of the abdomen, but extending over the whole, greatly aggravated on pressure, or on the slightest movement, so as to compel the patient to remain in the recumbent posture, with the legs extended and motionless, characterise the disease. The abdomen before long becomes tympanitic, and this tympanites, if considerable, greatly aggravates the patient's sufferings. The state of the bowels varies: frequently they are relaxed at the outset of the illness, sometimes they continue so throughout, while they are but rarely constipated. Vomiting is not a constant symptom, and when it does occur, the irritability of the stomach varies, both in its degree as well as in the time at which it appears. The symptoms sometimes continue to increase in severity until death takes place; at other times they undergo a sudden diminution, or even cease altogether, though this seeming amendment is attended or rapidly followed by sinking of the vital powers, and soon afterwards by the patient's death.

Fortunately cases of general peritonitis are very rare in childhood, and still rarer is their termination by the effusion of pus into the cavity of the abdomen. Even under these apparently hopeless circumstances, however, nature does sometimes make an effort at cure. The active symptoms diminish in intensity; the abdominal parietes grow thin at some spot, at which a passage at length is formed through which the pus is discharged, and recovery sometimes slowly follows; the result of a process precisely analogous to that which nature has recourse to in pleurisy, when she brings about the evacuation of the fluid through an opening spontaneously formed in the parietes of the thorax. An instance of the cure of a case of peritonitis, in a child seven years old, was related by Dr. Aldis, at a meeting of the Medico-Chirurgical Society, in Nov. 1846;* a few similar cases may be found in medical journals;† and one has come under my own observation, in the person of a little girl, whose history I related in the seventh lecture, as affording an illustration of that rare affection, inflammation of the sinuses of the dura mater.

The peritoneal inflammation which comes on during scarlatinal dropsy is not in general of a very active character, and seldom produces any morbid appearance of greater gravity than numerous slight adhesions between the intestines. It generally succeeds to ascites, and the abdominal affection seldom exists alone, but is usually associated with pleurisy, and abundant serous effusion into the chest, and the symptoms of disease of the respiratory organs very often mask those of the abdominal inflammation, which latter, indeed, seems in many instances to have but a very subsidiary share in bringing about the patient's death.

Besides those cases in which the peritonitis, whatever be its intensity, is general, there are others in which the *inflammation is circumscribed to a part*, and sometimes but a small part of the *peritoneum*. Now and then peritonitis affecting only a very small extent of surface proves rapidly fatal, (though no such instance has come under my own notice); but usually there is a correspondence between the severity of the symptoms and the extent of the disease. I imagine the inflammation to have been circumscribed in some cases, in which the principal pain was referred to one part of the abdomen, while the tenderness was almost limited to that situation, in which, moreover, the abdomen did not become generally tense or tympanitic, and all the symptoms yielded with tolerable readiness to the employment of remedies, though the disposition to pain and tenderness in one spot was some time before it wholly disappeared.

Lastly, some notice must be taken of a highly dangerous form of *peritonitis*, circumscribed in some cases, but general in others, which *succeeds to inflammation of the*

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* Reported in MEDICAL GAZETTE, Nov. 1846.

† For instance, Bernhardi, in Preuss. Med. Zeitung, 1843, No. 10; and Beyer, Casper's Wochenschr. 1842, No. 5. This termination is probably less rare in the peritonitis of puerperal women, than under any other circumstances. See a paper by Dr. Sampson v. Himmelstiern, in the Neue Zeitschr. f. Geburtskunde, vol. xiv. p. 446.

cæcum, or of its vermiform appendix. This affection, however, is not so common in early life as in adult age, and the same symptoms characterize it in either case, so that no lengthened description of it will be necessary. It has only once come under my observation, and, in that instance, although the inflammation had produced gangrene of the mucous membrane of the appendix, and a sloughing opening of communication between it and an abscess in the cellular tissue behind the cæcum, yet no intestinal concretion or other foreign body was discovered, to the lodgment of which, in the appendix, the disease could be attributed. All the viscera in the right half of the abdomen were thickly coated with lymph, but the inflammation had not at all involved the parietal peritoneum, nor extended to the intestines on the left of the mesial line. Acute pleurisy, however, existed on the right side, which had given rise to the effusion of nearly three pints of milky serum. The patient was a little boy, only seven years old, whose health had been habitually good, when he began to complain, on the 5th of July, of pain in the abdomen, and was attacked at the same time with violent purging and vomiting. The purging ceased in the course of a few hours, but the vomiting continued at the time of my seeing him on July 8, when he likewise complained of great pain, and of exquisite tenderness in the right hypochondriac region. Leeches were twice applied in that situation, and with manifest relief, and calomel and opium were given every three hours. In the night of the 10th an aggravation of the symptoms took place, and auscultation detected a friction sound in the right side of the chest. Cupping beneath the right scapula was followed by very marked improvement: he rested well on the night of the 11th; and on the 12th, he not only breathed without difficulty, but was free from pain in the hypochondrium, except on pressure, and the sickness had completely ceased. An aggravation of his symptoms, however, occurred during the night; on the 13th, he had changed his attitude, and was now lying on his right side, instead of on his back—a posture which he retained till his death. A marked fulness was now apparent on the right side, extending from the crest of the ilium to the ribs. On the ensuing day this part was not merely full and tender, but exceedingly firm to the touch; a condition which existed throughout the whole lumbar region, and extended forward to about two inches to the right of the linea alba. The bowels were at no time much constipated, and after the administration of an aperient on the 12th, they acted several times each day, the motions being relaxed, but otherwise natural. Sickness returned on the 13th, and during the last two days of the child's life was almost constant—a symptom which the great thirst that existed during the whole course of the illness rendered the more distressing. On the 12th, there were physical signs of some effusion into the chest, which had increased so much before death that the right half of the chest was manifestly enlarged, and the intercostal spaces on that side were very prominent. Auscultation, however, of the back of the chest was impossible for some days, owing to the acute pain produced by any movement. The breath grew very short; the flesh wasted rapidly; the face was habitually expressive of distress, and at night delirium came on. On the 16th, after a most wretched night, his pulse became very feeble, and his extremities cold, while the vomiting was incessant. Convulsions came on, and lasted for six hours, when they ceased, and two hours afterwards the child died tranquilly, on the eleventh day from the first sign of indisposition. The mercurial treatment had been continued all along, the opium being increased as the intensity of the child's sufferings seemed to require, and four days before death the inunction of a drachm of strong mercurial ointment every four hours was begun; but no effect seemed to be produced by the remedies.

The indication for *treatment* in cases of acute peritonitis, are so clear, that it would be superfluous to occupy much time in laying down rules for your guidance. You have to deal with the active inflammation of parts in which acute disease cannot go on long without destroying life. Depletion, both general and local, and the employment of mercury, combined with opium or Dover's powder, in order to mitigate the suffering which attends on the disease, are the remedies to which you must have recourse, and which you must employ with an unsparing hand. When the abdominal tenderness has been mitigated by bleeding, a warm poultice frequently renewed will often afford considerable comfort; and in some cases of local peritonitis I have seen the warm hip-bath give much relief. The error into which you are likely to fall in the management of these cases is not that of pursuing a wrong course, but of following the right one with too little vigour.

In the peritonitis that follows scarlatina, the symptoms are often less urgent than under other circumstances; but you will bear in mind, that when the function of the kidneys is disturbed, and urea is circulating in the blood, the serous membranes are very apt to become inflamed, and you will, therefore, keep on the look out for any indication of their suffering. I shall hereafter have to point out to you, that in this, as well as in so many other cases, prevention is not only better but easier than cure; and that if on the first appearance of the dropsy consecutive on scarlet fever, you have recourse to active antiphlogistic measures, you will in the large majority of cases escape the risk of these secondary inflammations.

Acute peritonitis, like the acute inflammation of any other tissue, may subside, but not altogether cease; it may pass into a chronic state, and the patient may suffer from the consequences of the disease long after the disease in its original form has disappeared. But it is not to an affection of this kind that I wish to call your attention in speaking of *chronic peritonitis;* but to a disease, the progress of which from its commencement has been slow, which is weeks or months in running its course, but which yet demands our closest attention, since in a very large number of cases that course is to a fatal issue.

It is not, however, its tardy progress which alone distinguishes the chronic from the acute inflammation of the peritoneum, but the former is almost invariably associated with the tuberculous cachexia, and, indeed, generally succeeds to the deposit of tubercle upon the serous membrane of the abdomen. The occasional recovery of a child in whom the symptoms of chronic peritonitis have existed, by no means disproves that connection between it and phthisical disease of which an examination of the body after death in fatal cases affords such convincing proof.

The bodies of children who have died of this affection are usually found to be exceedingly emaciated, and their face retains after death the suffering expression which it has worn during their protracted illness. The lungs and bronchial glands contain tubercle in greater or less abundance, and the pulmonary disease is sometimes so far advanced as to have obviously had no small share in bringing about the fatal event. On dividing the abdominal parietes, long slender cellular adhesions are often found connecting the peritoneum to the subjacent viscera. The intestines, too, are found connected by adhesions, some of which are very easily broken down, while others are so firm that the coats of the bowels give way in the attempt to separate them. This difference does not depend on the age of the adhesions, (although in this respect they vary greatly, some being apparently of very recent date, others of long standing), so much as on their nature. Those connections which are formed by the mere effusion of lymph, even when from age they have acquired considerable firmness, can generally be broken down without much difficulty; and at any rate the attempt will not produce any rupture of the intestines. When, however, different portions of the bowels are matted together so inseparably that it is easier to lacerate than to detach them from each other, it will be found that something more than the mere effusion of lymph has produced this union. It will be seen to have been effected by means of a yellow granular matter, like that which connects the opposite surfaces of the arachnoid in a case of tubercular hydrocephalus, and made up like it in part of lymph, in part of tubercular deposits. Adhesions are thus formed between the opposite surfaces of peritoneum, at first of small extent, but fresh deposits of tubercle soon take place in the vicinity, and the attendant inflammatory process unites together a still greater extent of intestine. Nor is this all; but in time the tubercle thus deposited undergoes a process of softening, in the course of which the muscular tissue of the intestines becomes destroyed, and their mucous membrane may thus eventually be perforated, so that distant parts of the intestinal canal, which at first were merely adherent together, are sometimes brought by this means into direct communication with each other. The abdomen generally contains a small quantity of transparent serum, but if, as sometimes happens, life should have been cut short by the supervention of acute peritonitis upon the old disease, the effusion may be of a puriform or seropurulent character.

In addition to the evidences of inflammatory action presented by the peritoneum, that membrane and the various abdominal viscera are the seat of a more or less generally diffused tubercular deposit. The surface of the peritoneum lining the abdominal walls is sometimes abundantly beset with small, grey, semi-transparent granulations; but in the majority of cases the tuberculization is less general, and the parietal peritoneum is less affected than other parts of the membrane. That part of the peritoneum which lines the diaphragm, or the abdominal walls in the immediate vicinity of the spleen, is one of the favourite seats of tubercular deposit, which in these situations generally assumes the form of small yellow miliary tubercles, not that of grey granulations. In some instances the omentum is the seat of the chief tubercular deposit; and though it usually assumes the miliary form, yet now and then masses of crude tubercle of considerable size are met with in this situation. The peritoneum covering the liver and spleen seldom fails to shew an abundant deposit of tubercle; and tubercles usually abound in the substance of the latter organ. The mesenteric glands likewise are tuberculous, though the degree of their degeneration, and the size which they have in consequence attained, vary much in different cases. The same remark holds good with reference to the amount of tubercular disease in the interior of the intestines, which, though in many cases very considerable, yet bears no invariable relation either to the degree of the affection of the peritoneum, or to that of the mesenteric glands.

In cases of this affection, those vague indications of decaying health which characterise the early stages of the tuberculous cachexia often precede any *symptom* of special disorder of the abdominal viscera. But this is not always the case; for in some instances the child begins, without any previous indisposition, to complain of occasional pains in the abdomen, which last but for a moment, and which cause the less anxiety, from the appetite being good, the bowels regular, and the general cheerfulness undisturbed. In the course of a short time, however, the appetite fails, or becomes capricious; the bowels begin to act irregularly, being alternately constipated and relaxed, while the motions are usually unnatural in character—dark, loose, and slimy. The child now grows restless and feverish at night, its thirst is considerable, and the abdominal pain becomes both more severe and more frequent in its recurrence. Sometimes the stomach grows very irritable, and food taken is then occasionally vomited; but this symptom is often absent; while the tongue, throughout the early stages of the affection, continues for the most part clean and moist, and deviates but little from its appearance in health. The symptoms just enumerated seldom continue long without being accompanied with a marked change in the size of the abdomen, and sometimes the alteration in the abdomen takes place rather suddenly, and is one of the earliest signs of the affection from which the child is suffering. The abdomen becomes large, tense, and tympanitic, while its parietes often seem glued to the subjacent viscera, and that manipulation which causes no discomfort, even when practised somewhat roughly on the big abdomen of a rickety child, is sure to occasion uneasiness, often even considerable pain, when tried with ever so much gentleness in the child suffering from chronic peritonitis.

In this as in other forms of tubercular disease, the progress from bad to worse seldom goes on uninterruptedly. Pauses take place in its course, though each time they become shorter, and signs of amendment now and then appear, but they, too, promise less and less with each return. The child loses flesh; the face grows pale and sallow, and anxious; the skin becomes habitually dry, and hotter than natural, and the pulse is permanently accelerated. The abdomen does not grow progressively larger, but it becomes more and more tense, although its tension varies without any evident cause, and sometimes disappears for a day or two, to return again as causelessly as it disappeared. When the tension is diminished, the abdomen yields a solid and doughy sensation, and the union between the contents of the abdomen and the abdominal walls becomes very perceptible. The superficial abdominal veins now become enlarged in many instances, and the skin grows rough, and looks as if it were dirty. The pain in the bowels retains the same colicky character as before, but it returns very frequently, and is sometimes exceedingly severe, while the child is never free from a sense of uneasiness. The tenderness of the abdomen, however, but seldom increases in proportion to the increase of pain. The bowels are in general habitually relaxed, though the degree of the diarrhœa, as well as the severity of the abdominal pain, vary much in different cases. As the disease advances, the child becomes confined to bed, and is at length reduced to a state of extreme weakness and emaciation. Death is often hastened by the concomitant affection of the lungs; but, should this not be the case, the patient may continue for many weeks in the same condition, till life is destroyed, after a day or two of increased suffering, by some renewed attack of peritoneal inflammation.

Some of you have probably been struck by the many points of resemblance between the symptoms that have just been described and those which are often enumerated as characteristic of mesenteric disease. Nor is it at all surprising that a very close analogy should subsist between chronic peritonitis and *tabes mesenterica*, since not only are both affections the results of the tubercular cachexia, but in both the abdominal viscera are chiefly involved in the disease, and both are in consequence characterised by a remarkable impairment of the functions of nutrition. It was natural, too, that in former times, when morbid anatomy was less carefully cultivated than at present, the attention of the observer should have been chiefly drawn to the increased size and altered structure of the mesenteric glands—appearances which must have been often discovered on an examination of the bodies of children who had died after a slow wasting of their flesh, attended with more or less enlargement of the abdomen and disturbance of the bowels. The physiology of those days, too, knew of no means whereby the absorption of the chyle could be effected except through the medium of the mesenteric glands; and the coarse appliances which then subserved the purposes of anatomical investigation did not suffice to shew that, even when these glands outwardly present a considerable degree of tuberculization, their lymphatics in many instances are still pervious.

We know that the nutrition of children is often much impaired from other causes besides tubercular disease; and that, when the digestive organs perform their functions ill, nothing is more common than for the abdomen greatly to exceed its natural size. Our predecessors had observed similar facts; but, from the imperfection of their physiological knowledge, they drew from them erroneous conclusions. Disease of the mesenteric glands was in their eyes the almost exclusive cause of the atrophy of children, and a preternatural enlargement of the belly was looked upon by them as an almost infallible sign that such disease had already begun. Tabes mesenterica was consequently regarded as a very common affection; and though its frequency is now well known to have been much overrated, yet the appearance of those symptoms that were once supposed to be characteristic of it, still excites much needless alarm among non-professional persons.

The mere presence of tubercle in the mesentery is, it must be owned, of very common occurrence, since MM. Rilliet and Barthez met with it in nearly half of all children in whom that morbid deposit existed in some or other of their viscera. But though the existence of tubercle in the glands be thus frequent, its presence in any considerable quantity is extremely rare, since, according to the same authorities, it was found in abundance only in 1 out of every 16 children, some of whose organs contained tubercle.

The general character of tuberculous mesenteric glands is much the same with that of tuberculous bronchial glands, but the former are usually surrounded by a more delicate cyst; and although their size seldom exceeds that of a chesnut, yet they occasionally undergo a degree of development which far exceeds that of tuberculous bronchial glands, and three or four of them coalescing together, sometimes form a mass as big as the fist, or even bigger.

The effects produced even by an advanced degree of tuberculization of the mesenteric glands are smaller than might be anticipated, and much smaller than those which result from a considerably less amount of disease of the bronchial glands. Nor will this at all surprise us, if we bear in mind the difference between their anatomical relations. The bronchial glands are not merely situated in a cavity which is bounded by comparatively unyielding parietes, but the viscera with which they are in contact are solid and resisting, and they are, moreover, adherent to the trachea and the larger air-tubes, so that any increase of their size is sure to produce compression of parts whose functions are of vital importance. The mesenteric glands, on the contrary, are contained in a cavity whose yielding walls allow them to increase readily in size, while the loose attachments of the mesentery still further permit them to attain even to considerable dimensions, without their pressing upon any viscus, so that it is an exceedingly unusual occurrence for them to cause the perforation of any part of the intestines, or even for them to contract adhesions to their exterior.

To these causes it must be attributed that there is no *symptom* pathognomonic of tubercle of the mesenteric glands, except their being perceptible through the abdominal parietes. This, however, they never are during the early stage of the affection; and though on one or two occasions I have felt a tumor in the abdomen, which, from its being associated with the evidences of tuberculous disease in other organs, I have been led to attribute to the enlarged mesenteric glands, yet in these cases I have not had the opportunity of confirming the diagnosis by an examination after death. There can, however, be no doubt but that they do become perceptible through the abdominal walls, though at a season when, their cure being hopeless, little practical use can be made of the certainty of our diagnosis. In its earlier stages, no symptoms at all are present, or only the indications of that general tuberculous disease of which the affection of the mesentery is usually but a subordinate part. At a later period, when the disorder of the digestive organs attracts attention, the symptoms are generally much the same with those of chronic peritonitis, save that, if the peritoneum be free from disease, the abdomen is in most cases both less tense and less tender.

I the less regret that so little time remains for the consideration of the *treatment of chronic peritonitis and of tabes mesenterica*, since the subject may be dismissed in a few words. In each of these affections two periods may be distinguished. During the first, while our diagnosis is still uncertain, general principles guide our conduct, and lead us to subject the child to the same dietetic and hygienic management as we should adopt if we feared the approach of any other form of phthisis. In the second period, the advancing mischief has removed all doubt from our minds, but at the same time has chased all hope from our spirits; and we now minister to symptoms as they arise, and try to mitigate sufferings which we cannot cure.

The dyspeptic symptoms, the unhealthy appearance of the evacuations, and the frequency with which diarrhœa occurs, enforce the necessity for the diet being as mild and unstimulating as possible. The abdominal pain which is experienced in tubercular peritonitis is almost always relieved by the application of a few leeches; but even local depletion must not be practised without absolute necessity; and in many instances a large poultice to the abdomen, frequently renewed, will remove pain, the severity of which had seemed at first to call for the abstraction of blood. The logwood and catechu mixture mentioned in the last lecture is one of the best astringents that can be employed to check the over-action of the bowels. Sulphate of iron and opium, in the form either of pills or mixture, may be used if the diarrhœa be very obstinate, though we may be compelled to abandon their use, from finding that they aggravate the patient's symptoms; but I have not observed the mere suppression of the diarrhœa by astringents to be followed by any exacerbation of the other abdominal symptoms. Astringents, however, are far from being the only remedies to be employed; but mercurials in a mild form, and continued for a long period, have often seemed to be of much service. When the tenderness of the abdomen has been sufficiently relieved to admit of it, I generally direct the use of a liniment twice a day, consisting of the Linimentum Hydrargyri, soap liniment, and olive oil, in equal parts, which has seemed useful as a counter-irritant even independent of the mercury, which enters into its composition; besides which I give equal parts of the Hydr. c. Cretâ and Dover's powder once or twice a day. The Dover's powder prevents the mercurial from irritating the bowels, and also allays the restlessness and feverishness at night—an end to which the use of the tepid bath every evening likewise conduces, often in an eminent degree. The comfort of the child is often much promoted by wearing a well-adapted flannel bandage over the abdomen both by night as well as by day, and the support it affords may be increased with advantage by a piece of thin whalebone at either side.

If diarrhœa be absent, or if, though it be present in a slight degree, the skin be very hot and dry, and the child very thirsty and feverish, the tepid bath, the mercurial with Dover's powder, and small doses of liquor potassæ and ipecacuanha, are the remedies on which I chiefly rely, and to this the extract of dandelion may often be added with advantage. If it seem likely that a mild tonic will be borne, a mixture containing the extract of dandelion, extract of sarsaparilla, and sesquicarbonate of soda, may be given; or the Liquor Cinchonæ or the infusion of calumba may be employed for the same purpose. It is only with much caution that we can administer chalybeates in these cases, and after having found that the milder vegetable tonics are well borne. The ferro-citrate of quinine, or the citrate of iron, are the preparations which it will generally be desirable to employ in the first instance, and even their effect should be watched attentively. In conclusion, I need hardly mention the importance of change of air, and the benefits likely to result from a sojourn on the sea coast; for you know how much more powerful nature's remedies are in diseases of this kind than the remedies of man's devising.

Original Communications.

ON

GASTRO-INTESTINAL DISTENSION, AND ENLARGEMENT OF THE LIVER.

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1. *In gastro-intestinal distension, the diaphragm is raised, the lungs and heart are compressed; respiration and circulation being impeded.* 2. *Intestinal distension is frequent in the dying;* 3. *and invariable in peritonitis.* 4. *Use of O'Beirne's tube if the colon be distended.* 5. *Use of the œsophageal tube if the stomach be excessively distended.* 6. *Discrimination between gastric and intestinal distension.* 7. *Palpitation and dyspnœa are often caused by gastric distension.*
8. *The liver, when enlarged by interstitial abscesses, compresses the right lung and the heart, and pushes the heart unusually to the left.* 9. *The liver, when simply enlarged, displaces the other abdominal viscera downwards, but does not encroach on the lungs and heart, or interfere with their descent.* 10. *Discrimination between pneumonia of the right lower lobe and enlargement of the liver with adventitious deposits.*

1. The effects of excessive flatulent distension of the stomach, colon, and small intestines, are well shown in the engraving from Clarke, a boy who had long suffered from diabetes, no doubt brought on and kept up by masturbation. In Clarke the abdominal distension was great for months before his death. In him the abdomen is enormously distended; the diaphragm is pushed upwards, so that the upper convex boundary of it is behind the third intercostal space on the right side, and the fourth intercostal space on the left side; and at the centre it is an inch higher than the lower end

of the sternum. The thoracic cavity is materially lessened, and the heart and lungs are necessarily compressed upwards, being packed into an unusually small space. The lower ribs, the diaphragmatic and intermediate sets, are pushed outwards by the distended stomach and displaced liver. Owing to the great distension of the stomach, the left diaphragmatic ribs are pushed outwards more than the right. This is very apparent to the eye, the left seventh cartilage, just below the sternum, being more raised than the right.

Owing to the compression and diminution in size of the lungs and heart, respiration and circulation are both impeded by intestinal distension.

2. Intestinal distension is very frequent in the dying. From the examination of 122 diagrams of the position of the viscera, taken indiscriminately, I find that

Both the stomach and intestines were very much distended in ..	28
They were considerably distended in	13
The stomach was much distended (the intestines not being so) in	11
The intestines were much distended (the stomach not being so) in	11
The liver was very much enlarged in	7
The distension was moderate in ..	20
And absent in	33

In these cases the abdomen was distended, the lower ribs pushed outwards, the diaphragm raised, and the heart and lungs pressed upwards, in proportion to the gastro-intestinal distension. In the first class of cases, in which the distension was very great, the upper convex boundary of the diaphragm was on the right side, usually behind the third intercostal space (as in Clarke), or the fourth rib; and in the cases in the last class, free from distension, it was usually behind the fourth intercostal space, or fifth rib.

3. Intestinal distension is invariable in peritonitis, and is then probably due to the relaxation or paralysis in the muscular coat of the intestines induced by inflammation. It is remarked by Dr. Stokes, that all muscles are paralysed or rendered inactive by inflammation. The removal of the customary pressure, caused by the peristaltic action of the intestines, tends no doubt to the increase of their gaseous contents. Distension is also frequent in affections of the mucous membrane of the stomach and intestines, in dyspepsia, and in diseases attended by debility and relaxation of the muscular fibre.

4. Intestinal distension, when excessive, is in itself a serious malady; and when it accompanies acute diseases, such as peritonitis, it is a very formidable symptom, and is often, I believe, the immediate cause of death. The most successful plan of treatment usually pursued is to stimulate the mucous membrane, and the muscular coat of the stomach and intestines; but before this can be done to any good purpose, the great accumulation that, from its own distension, paralyses the muscular coat, must be removed.

If the distension be in the colon, the use of O'Beirne's tube will usually succeed. In inserting the tube it is important to remember, that the peristaltic action of the lower portion of the gut will often impede its introduction. This impediment may be always and easily overcome, by keeping up a continuous pressure, with gentle firmness, upon the seat of the contraction; this at length yields of itself, and the tube glides on with ease, usually at once liberating some of the gaseous contents. In some cases the obstacle may be overcome by throwing up a few ounces of warm water; for this purpose it is well to have an enema syringe at hand, adapted to the tube. When the gas is escaping, it is often of service to press on the abdomen over the colon.

5. If the stomach be enormously distended, the distension may be immediately relieved by the introduction of the œsophageal tube. The fibrous coat of the stomach is paralysed by long-continued over-distension, in the same way that that of the bladder is. As the distended bladder, when there is retention of urine, must be emptied by the catheter before the muscular coat can recover its tone, so the distended stomach must be emptied by the œsophageal tube. In introducing the tube it is well not to do so rapidly, but to bear in mind, and as it were follow, the peristaltic action of the œsophagus.

6. As the evacuation of the gaseous contents of the stomach and colon is required when they are over-distended, it is of practical importance to be able

to distinguish whether the stomach alone be distended, or the colon. If the former, the left lower ribs, the intermediate and diaphragmatic sets, protrude more than the right; the gastric bulge, as in the case of Clarke, and contrary to custom, being greater than the hepatic bulge. The left thoracic ribs—the second, third, and fourth—are often flatter than the right. The rounded abdominal prominence of the stomach can be seen below the xyphoid cartilage, and between the opposite costal cartilages. By percussion the distinctive boundary between the stomach and colon can be readily recognised, and a groove along the boundary can be often seen. If the colon be distended, the expansion of the abdomen is diffused, the liver is pushed freely upwards, and the hepatic and gastric bulges are both increased, bearing their usual relative proportion. The diffused inequalities of the colon may often be felt through the abdomen. If both stomach and colon be distended, as in Clarke, the combined effects may usually be readily traced; if, after the use of O'Beirne's tube, the gastric distension be great, then the œsophageal tube may be used with advantage.

7. In many persons suffering from dyspepsia, a hearty meal is followed by gastric distension; and this is frequently accompanied by, and the immediate cause of, dyspnœa and palpitation. This was painfully illustrated in the case of a poor girl who had, when in extreme poverty, lived for ten months on boiled potatoes mixed with barley. Her diet improved with her circumstances, but to this day the stomach has not recovered its tone. The action of the distended stomach on the heart and lungs is very apparent. The diaphragm is pushed directly upwards; the heart, and to a less extent the lungs, are pressed upon, and their size diminished. At the same time the liver is pressed upwards, and compressed between the stomach and the diaphragm; and an additional amount of blood from the hepatic cava is directly thrown into the right cavities of the heart, at the very time that the heart's action is embarrassed by the upward pressure of the stomach. The majority of the patients of this hospital who complain of palpitation, suffer from it most, shortly after their dinner. In them the heart is usually sound, and the cause of the palpitation directly traceable to gastric distension.

Enlargement of the Liver.

In James Glann, affected with jaundice, the subject of the accompanying engraving, there were several large abscesses in the liver; he had peritonitis and excessive intestinal distension. The stomach was of normal size.

In Glann the abdomen is much distended; the diaphragm is thrust upwards, in a manner very different from that in Clarke. The right convexity of the diaphragm is pushed upwards by the liver, greatly enlarged from abscesses, so that the upper boundary of its convexity is behind the lower edge of the second rib. The whole right lung is necessarily remarkably lessened. But while the right side of the chest is so much encroached on, the left does not escape. The convexity of the liver is so great, that it partly occupies the left side of the chest, and carries the heart, resting upon it, completely over to the left side of the chest, so that no part of the heart is to the right of the sternum. The ventricles of the heart, and of course the apex, encroach unusually on the left lung; and as the left side of the diaphragm rises as high as the fourth rib, the whole left lung, as well as the right, is compressed upwards and backwards, and much diminished in size. Although the liver, enlarged from abscesses, extends over to the left side, yet by far the greater proportion of its increased bulk bears upon the right side; and in this respect, Glann, with irregularly enlarged liver, offers a well-marked contrast to Clarke, with great gastric distension. In Glann the right lower ribs, from the fifth downwards, are pushed outwards much more than the left, the hepatic bulge being much greater and more extensive than the gastric; while in Clarke it is just the reverse, the gastric bulge being much greater than the hepatic. In both cases we find the abdomen distended, the lower ribs prominent, the diaphragm pushed upwards, and the heart and lungs pressed upwards, and diminished in size, being encroached upon by the abdominal organs.

In a patient that I saw some time since, the liver was manifestly, as in this case, much and irregularly enlarged; it encroached upwards on the

FIG. 1.

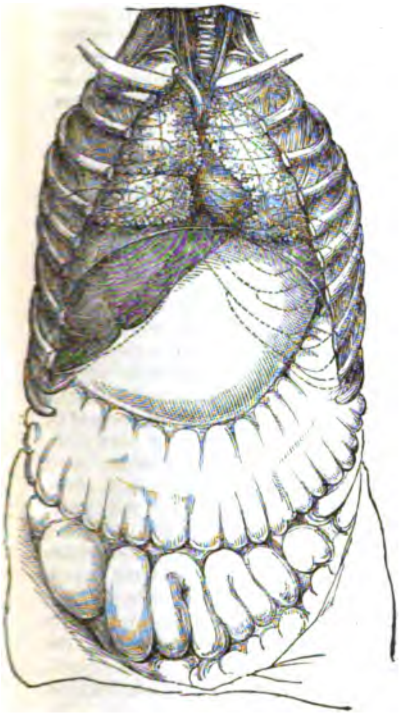

FIG. 2.

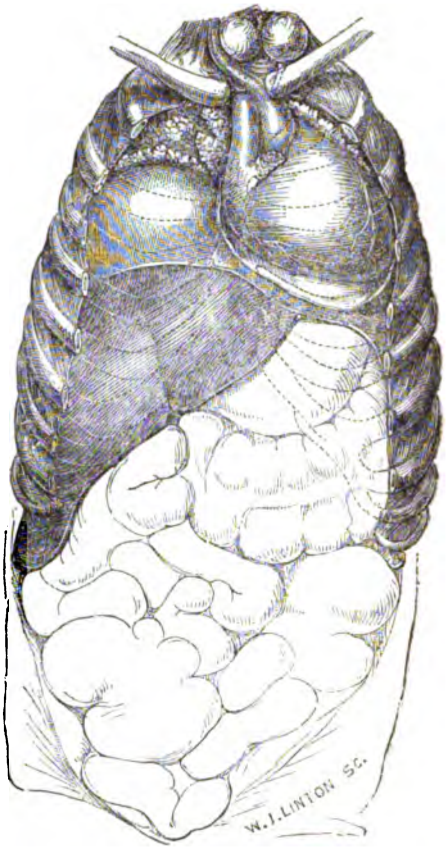

Fig. 1. Thos. Clarke, æt. 15 :—Gastro-intestinal distension.
Fig. 2. James Glann, æt. 24 :—Extensive abscesses in the liver.

right, and partially on the left side, carrying the heart over unusually to the left, so that the impulse was felt considerably to the left of the nipple. In this case the hepatic bulge was very large indeed, and the liver and the cysts connected with it (probably containing hydatids) encroached considerably on the abdominal viscera.

It is in such cases as Glann's, where the enlargement of the liver is caused by interstitial deposits, such as collections of pus, malignant tumors, or hydatid cysts, that the liver encroaches so much on the lungs and heart. In such cases the liver is irregularly enlarged, its circumference and diameter being greatly increased, according to the size and position of the deposits.

9. When the liver is simply enlarged, without adventitious deposits, the liver scarcely rises higher than usual into the chest; it encroaches almost wholly downwards, and to the left, displacing the stomach, intestines, pancreas, and right kidney, and it interferes but little with the inspiratory descent of the diaphragm. If the liver be adherent, the encroachment on the right lung is considerable.

10. There is no danger of mistaking enlargement of the liver, when free from adventitious deposits and without adhesions, for pneumonia or consolidation

of the lower lobe of the right lung. It is, however, sometimes difficult to discriminate between those affections of the lung and enlargement of the liver with extensive adventitious deposits, or with adhesions. Among the best criterions, in addition to the other distinctive signs, are the great increase of the hepatic bulge, the unusual encroachment of the liver and its deposits on the abdomen, and the complete absence of vocal fremitus over the region devoid of sonoriety, if the disease be hepatic; and the non-existence of such signs if it be pulmonic.

ON DEATH FROM CHLOROFORM.

The death from chloroform of Mr. Badger, related in the Lancet of July 8th, is an interesting illustration of the effect of enlarged liver on the space for the lungs and heart, and on respiration and circulation. The liver in Mr. Badger weighed eight pounds, and the summit of it was behind the third intercostal space. The liver evidently pressed upon the heart and the lungs, interfering with their function. In this case the heart was flaccid and somewhat fat. The flaccid state of the heart shewed that the death was immediately caused by paralysis of the heart's action: there were clots of dark grumous blood in both cavities. The lungs were not materially congested.

Since the death from chloroform of Greener, near Newcastle, three additional fatal cases have unfortunately occurred. They are all well recorded, especially in the post-mortem appearances, and we are consequently better able to say from experience what is the immediate cause of death from chloroform, what treatment ought to be pursued when death is imminent, what precautions ought to be adopted in the administration, what class of persons ought not to be submitted to its action, and in what cases its employment cannot be sanctioned.

In the lower animals, from the experiments of Dr. Percy, Dr. Glover, and Mr. Wakley, the first fatal effects of chloroform, ether, and alcohol, are usually the cessation of respiration, the heart's action continuing for some minutes. I say usually, for Dr. Percy and Dr. Glover both noticed that, in some dogs, the respiration and the heart's action ceased simultaneously.

One continental experimenter found that, by artificial respiration, he could always restore the lower animals when animation was suspended by the action of chloroform.

If anything can restore the human subject when animation is suspended by excessive chloroformization, it is artificial respiration. The experiments on the lower animals hold out much hope of success by this means; but, unfortunately, from the four recorded cases, I fear that, in man, even artificial respiration will seldom succeed.

In the case of Greener the lips became suddenly blanched; blood would not flow freely from the arm; the lungs were excessively congested; the heart quite healthy, containing in both cavities dark fluid blood. It is not stated whether the heart was flaccid.

In Maria S., the fatal case at Boulogne (Lancet, June 6th), the last appearances of life were two deep and laborious inspirations. The lungs were healthy, not congested, except at the depending part. Heart flaccid, like an empty bag; fat; cavities quite empty. Fluid blood black as ink in the large veins. Large bubbles of air were found every where in the veins; one or two ounces of bloody serum in the pericardium. Artificial respiration was adopted.

In Mrs. Simmonds, the American case (who enjoyed excellent health), whilst inhaling in a chair, the *face became pale;* respiration and pulsation ceased about the same time. About half an hour later electro-magnetism caused muscular contractions but no effect on the heart's action. Artificial respiration and other means were used. Limbs rigid; lungs not intensely congested, bronchi being stained with blood. Pleura highly injected. Heart flaccid; all its cavities and the great vessels entirely empty; their inner surface deeply stained. Only a little blood in the abdominal cava. Six drachms of bloody serum in the pericardium. Some bloody serum in both pleural cavities and in the right hypochondrium.

In the case of Mr. Badger the heart was flaccid, and contained coagulated blood.

A man died at Auxerre last August under the influence of ether (GAZETTE, March 10th, 1848). In him the pulse and the respiration ceased about the same time. The countenance just before death was deeply livid. The lungs posteriorly, and the bronchial lining throughout, were highly congested; blood fluid; state of heart not specified.

In the three later fatal chloroform cases the heart was quite flaccid. In the case of Greener the state of the heart is not specified, but the countenance became suddenly blanched. In all the four cases it is manifest the immediate cause of the instantaneous death lay in the heart. The heart, influenced by the poison, ceased to contract, not from the cessation of respiration, for the heart in asphyxia will beat from one to three minutes after respiration has ceased, but from immediate death of the heart.

There is no doubt a combination of causes operating to destroy the heart's contractile power: the mental influence, the congestion in the systemic, and that in the pulmonic capillaries, will all have a material influence. In poisoning by prussic acid in a dog, Dr. Lonsdale found the heart's action ceased with respiration; the heart was distended; on puncturing the cava the heart renewed its action. In poisoning by tobacco a similar state occurred to Sir Benjamin Brodie. By artificial respiration he kept up the action of the heart, which had been renewed by local stimulus after its complete cessation.

But, besides these three causes, all co-operating to arrest the heart's action, there is indisputably the direct action of the poison on the muscular tissue of the heart. The poison penetrates to the heart from the lungs in a single pulsation; and at the beginning of the next systole, the blood is sent through the coronary artery to the whole muscular tissue of the heart. The blood passing into the coronary artery is less diluted,—is more strongly impregnated with chloroform,—than is the blood in any other part of the system, except the lungs. The experiments of Dr. Simpson, Mr. Nunneley, and others, have shown the action of chloroform to be local. Those of Allston, Fontana, Whytt, and Monro, in the last century, completely demonstrated the local action of opium. Dr. Whytt destroyed the contractility of the frog's heart by steeping it in a watery solution of opium.

I fear, from the experience of these fatal cases, that we must regard chloroform as one of the most uncontrolable narcotic poisons when its action is pushed so far as to suspend *circulation* and *respiration*. It is very manifest, that in the American and Boulogne cases the heart's action was not arrested from its over distension, as it was in the cases of poisoning by prussic acid and tobacco previously cited. In both those cases, the heart was absolutely empty of blood. A question arises here, was the heart arrested from want of blood? The experiments of Dr. Kay and others have proved, that any limb or muscle will be paralysed if it be deprived of blood. Indeed, the action of the right side of the heart, which usually continues long after that of the left has ceased, will be the first to cease if the left side be supplied with blood while the right is deprived of it.

It is very possible, that in these cases the want of blood for the heart to act upon had to do with its ceasing to act: this would be due to the arrest of the blood in the lungs and in the system generally, and the supply of blood to both sides of the heart.

It is, however, to be remarked, that in both of these cases the blood was quite fluid; that in both of them there was bloody serum (about an ounce) in the pericardium; that in the American case, there was a deep red stain on the interior of the empty heart and great vessels. In these cases, I do not doubt that some blood was in the heart at the time of death, but made its way out by imbibition and otherwise, owing to its fluidity, during the twenty-four or thirty hours that intervened between death and the examination.

In ordinary death, the right ventricle, which contains blood, is flaccid, while the left, which is quite empty, is rigid. This proves, that the flaccidity of the walls of the heart in the cases under review was not due to the empty state of the ventricles.

We are obliged, then, from the experience of these cases, to conclude, that in man the death is usually instantaneous, and due, as every instantaneous death is, to paralysis of the heart. In animals, the death is usually due to paralysis of the muscles of respiration.

It is chiefly owing to the superior control of the mind over the body in man, that in him the poison acts on the heart more than in dogs. It is from the same cause that opium, which so usually produces convulsions in the lower animals, so seldom produces them in man; and it is from the same reason that opium produces convulsions so much more frequently in children than in adults.

These cases suggest some important considerations on the *mode of chloroformization*. In three out of the four fatal cases the chloroform was given in the sitting posture. This posture requires much greater power in the heart to carry on the circulation than the recumbent. Chloroform should not, if possible, be administered in the sitting posture.

In three out of the four fatal cases, the chloroform was administered by the operator: this should never be. Chloroformization is the exhibition of a subtle poison, and ought to be watched by its administrator with undivided attention during the whole of its operation.

During chloroformization, the state of the eyes, the lips, the pulse, and respiration, should be continually watched. Since my paper on the action of chloroform, in a former number, I have never in any case, however prolonged the operation, allowed the action to proceed so far as to cause dilatation of the pupil.

As soon as the eyes turn up, and the eyelids cease to quiver and resist, draw up one eyelid, and keep the eye constantly open; watch the pupil closely—it is usually contracted, and ought never to proceed to dilatation, excepting, perhaps, in the reduction of dislocation and in the reduction of hernia. If the eyeball begin to move, and the eyelids to quiver, apply the inhaling mask again for a few seconds until they again become fixed: thus, with the inhalation of very little chloroform, a person may, at will, be kept long under its influence; and yet not a minute longer than is needful, as you have the patient just on the margin of unconsciousness.

The inhaler should be so constructed that every inspiration be made palpable by it. The tell-tale valve of my inhaler does this perfectly, and may be, and indeed has been, adapted to other inhalers. Without some such precaution, the patient might cease to breathe unnoticed.

The chloroform should be administered gradually, much diluted with air at first, and less so afterwards. The effect should neither be produced too quickly nor too slowly: in either case, the accumulative effect pointed out by Dr. Snow may endanger the patient after the chloroform has been withdrawn.

If the respiration ceases before the pulse, artificial respiration must be immediately resorted to: it may be performed instantly, by breathing into the lungs through the inhaling mask, described in a previous paper.

If the heart has ceased to beat, the case is almost hopeless. If the veins of the neck be swollen, the right cavities of the heart are distended, and an ounce of blood taken from the jugular may relieve the distension of the heart, and lead to the renewal of its action. Under any circumstances, artificial respiration should be resorted to as the last resource.

In each of the four cases,[*] the operation, though painful, was not serious. In such cases, the mind usually fears the chloroform more almost than the operation. It is otherwise when the operation is serious.

In dental surgery (except in extreme cases) and in trivial operations, the use of chloroform is not justifiable.

As the heart is subject to paralysis from the action of chloroform, its use should not be lightly resorted to when there is affection of the heart. I do not speak so much of organic disease of the heart as of those cases where palpitation and dyspnœa are easily excited, either from abdominal distension or from mental emotion. To such persons chloroform is, I conceive, more likely to prove destructive than to those with organic disease of the heart, when they do not suffer from palpitation. Mr. Walshe, of Worcester, has shown, that the dread of a serious operation often does more harm than the operation itself; and hence the real value of anæsthesia is often not so much to save the immediate pain, as the bad effects of the dread of the pain. This, which applies to persons enfeebled by disease, applies with equal force to persons the subject of heart disease, and they, when the dread of a severe operation is great, may sometimes be peculiarly benefited by the careful and *short* production of anæsthesia during the *cutting* part of an operation.

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[*] Since this was written, a fifth case of death from chloroform (in India) has been reported in the GAZETTE. Like the four other cases, the operation was trivial; like three of them, chloroform was administered by the operator himself, and in the sitting posture. During the operation scarcely a drop of blood escaped. The patient was probably already dead! There was no post-mortem. I observe that the Boulogne case is reported anonymously. One cannot, therefore, confide in the post-mortem report of that case; but if it be shut out altogether from this paper, it will not affect the remarks contained in it. The authentic account of that case in the GAZETTE fully justifies the editorial remarks on it.

It is to be hoped that Mr. Robinson, to whom the profession owes so much for his communications on ether and chloroform, will favour us with an account of Mr. Badger's case. It would appear, from the evidence of the servant, that the mask was never brought in contact with the face: this may be a mistake from imperfect observation. It would be interesting to know from Mr. Robinson whether this was so; and whether he finds that the effects of chloroform can be usually thus induced. One disadvantage in Mr. Robinson's mask is the inability to admit pure atmospheric air through the mask: for this he appears to make up by not bringing the inhaler in contact with the face. Another disadvantage is the want of a tell-tale valve.

These fatal cases, unfortunate in themselves, will be of service in checking the employment of chloroform in trivial cases, and in persons well able to bear an operation, and in drawing attention to the proper mode of its administration; but they ought not to interfere with its judicious use in severe operations, when the patient, from long-continued disease or the shock of an accident, is unable to bear the pain and shock of an operation. The employment or non-employment of chloroform is a balance between two evils.

These cases ought not to interfere with the judicious medicinal use of chloroform. In neuralgia and chorea it is not necessary to push the chloroformization to the extent of unconsciousness. As in such cases the full effect ought not to be induced, it is perfectly safe to administer the chloroform in the sitting posture, the head being supported.

ADDITIONAL NOTES ON THE

MORBID ANATOMY, &c. OF CHRONIC RHEUMATIC ARTHRITIS

OF THE

SHOULDER AND OTHER JOINTS.

By Edwin Canton, F.R.C.S.
Demonstrator of Anatomy at the Charing Cross Hospital School of Medicine.

In a paper published in the Medical Gazette for March of the present year, I described the morbid appearances to be met with in cases of the above disease, when affecting the shoulder-joint. Since that time I have had additional opportunities of noticing the complaint in this and other articulations, and finding that the particular features it presents after death have been mistaken occasionally for the effects of accident, or regarded simply as changes natural to old age, I am induced to communicate further observations, with a view to the prevention of further error, and of calling attention to an affection which is not so universally recognised as, from the frequency of its occurrence, and the peculiar character of its ravages, I believe it might be.

Morbid appearances mistaken for the effects of accident.—With regard to the shoulder, Mr. Adams, of Dublin, in writing to me on this point, remarks, "there is no joint has been the subject of more mistakes relative to this disease than the shoulder. Almost all the cases published have been supposed to be those of partial dislocation; the history of the case being in ninety-nine out of a hundred unknown."

In the Medical Gazette, Vol. xiv, a paper has been inserted, entitled "Pathological appearances in seven cases of injury of the Shoulder-joint," by Mr. G. Smith. The specimens were met with in the dissecting-room, and their history could not be ascertained.

Capsular tendons.—In the first preparation, the tendons of the spinati, subscapularis, and lesser teres muscles, are described as having been completely detached or torn away from their connection to the tubercles. In the second case, the tendon of the subscapularis was partially torn from the lesser tubercle, but the insertion of the spinati and teres minor muscles remained perfect. The third example was similar to the first; and the fourth displayed two of these muscles torn from the tubercle; the inner surface of the capsule presented a very rough fibrous appearance, occasioned by the portions of the lacerated tendons. Cases six and seven are, in respect to these tendons, analogous to the preceding ones.

The appearances described I have not unfrequently met with more or less strongly marked in cases of chronic rheumatic arthritis, and they are to be seen in connection with others in the articular surface of the humerus and scapula; the tendon of the biceps; surrounding bony growths; ivory-like deposit, which characterise this affection, and all of which are carefully described by Mr. Smith, as having been found in his specimens. In tracing the course of this disease, and noticing the various morbid changes it establishes in its progress, it is easy to comprehend how from an early division (by absorption) of the articular portion of the bicipital tendon, and consequent displacement of the head of the humerus, with the establishment of new surfaces for the accommodation of the latter, the tendons of the capsular muscles at their insertions should suffer atrophy from pressure, and present irregular, fringed, and apparently lacerated ends attached to and intermingling with those nodulated osseous growths, which spring from the tubercles of the humerus, and elsewhere, in the vicinity of the joint in this affection.

Tendon of the biceps.—In five cases this tendon is described as being torn through. The lower part attached to the margin of the bicipital groove, whilst the superior portion had either disappeared, or was affixed to the upper part of the glenoid surface. In Cases VI. and VII. the tendon was not separated from its origin, but displaced from the groove, and lay loose in the inner part of the cavity of the joint; it is expanded, and bears evidence of having been subjected to pressure and friction. The bicipital groove is nearly obliterated, and portions of ossific matter have been deposited.

The conditions of the tendon of the biceps here mentioned are those most commonly to be observed in chronic rheumatic arthritis; but there are several others which would seem to be states of the part in an earlier stage of the disease. These latter are, so to speak, in keeping also with the lesser extent to which morbid action has implicated the encrusting cartilages and surrounding tissues. Displacement I have less frequently seen than the above noticed peculiarities. The author of the paper ascribes the appearances to the effects of dislocation of the humerus, either into the axilla, or the dorsum scapula, or under the pectoral muscle.

Being desirous of ascertaining from Mr. Smith whether from subsequent experience he had found reason to alter his opinion regarding the origin of these morbid phenomena, I wrote to that gentleman on the subject, and have to acknowledge his prompt attention to my letter, and the frankness of his reply. He writes, "I was in the first instance disposed to view the appearances as purely the result of injury, but from the frequency of their occurrence, and the similarity to a greater or less extent of the apparent mischief, induced me afterwards to come to a different conclusion, and to view them rather as the *destructive results of long-continued chronic inflammation of fibrous tissues.* I am speaking entirely from recollection; but, as far as I can recal to memory, we became so familiar with the appearances, that we could often detect the morbid condition of the joint before a close examination, by the alteration in the general form of the biceps muscle, the outer head being very much smaller and shorter than usual. The subdeltoid bursa generally communicated with the shoulder-joint, &c. In two of the examples there was fracture of the acromion process, about half an inch from the articulation, which had formed the usual appearances of an artificial joint. In these instances all the structures appeared under the deltoid muscle to participate in the boundaries of the joint. It appeared to me as if some strong force had been acting to pull the humerus upwards, as by strong contraction of the deltoid muscle continued for a length of time."

Mr. Soden, in making the following remark,* has adduced the cases of Mr. Smith in support of his view,—"that rupture of the tendon of the biceps would appear to be no uncommon accident; for its occurrence, both separately and in combination with dislocation of the bone, has been several times noticed."

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* Medico-Chirurgical Transactions, 1841.

Dr. Knox[*] has published an account of the altered condition of that portion of the tendon of the biceps flexor cubiti, which passes through the shoulder-joint.[*] The specimens were obtained from the dissecting-room, and no history of the cases could be procured. The description given of these preparations shows distinctly that the appearances presented were the effects of the *disease* under consideration, whilst the concluding observation points to *violence* as their origin:—"So far as my information extends, injuries done to this tendon in the part to which these remarks allude, are exceedingly rare, or, perhaps I should say, rarely recorded. Systematic writers do not even allude to any pathological condition of this tendon; and this is a principal reason why I now bring this subject before the profession, and solicit to it the attention of practical surgeons and pathologists."

Bones of the shoulder in old age.—In my last communication, I mentioned that analogy would lead us to expect certain chemical changes to have taken place in the bones of the shoulder-joint in advanced life, similar to those which have been noticed by Mr. Bransby Cooper in the head and neck of the thigh-bone after the age of fifty.[*] And to my friend Mr. Harper I am indebted for the subjoined accurate analyses, which, when formerly alluded to, were in progress only. As a matter more immediately connected with, and possessed of much interest in the present inquiry, the results of an examination of the shoulder-bones already described has been added; likewise of the bones of the hip from the same subject, and which, like the former, are extensively affected by chronic rheumatic arthritis.

	Amount of earthly matter.			Amount of animal matter.		
	Articular part of Scapula.	Head of Humerus.	Shaft.	Articular part of Scapula.	Head of Humerus.	Shaft.
Male, æt. 25, (died of phthisis) . . .	45·26	36·86	59·83	54·74	63·14	40·17
Female, æt. 82	32·47	24·70	36·42	67·53	75·30	63·58
Male, æt. 61, (died of fever)	32·88	23·19	54·70	67·12	76·81	45·30
Female, æt. 80	40·50	27·19	44·59	59·50	72·81	55·41
Female, æt. 78, (died of scirrhus uteri) .	30·40	23·53	48·64	69·60	76·47	51·36
Male, æt. 78	32·30	26·29	49·59	67·70	73·71	50·41
Female, æt. 70	36·32	26·13	46·54	63·68	73·87	53·46
Female, æt. 89	40·00	23·40	47·22	60·00	76·60	52·7
Male, æt. 75, (a fine muscular subject) .	41·50	39·70	59·35	58·50	60·30	40·65
Female, æt. 80, (chronic rheumatic arthritis	23·13	29·49	61·76	76·87	70·51	38·24
Do. Do. (acetabulum)	23·46	.	.	76·54		
Do. Do. (femur) . .	.	22·43	43·00	.	77·57	57·00

I have already given the history of two cases of chronic rheumatic arthritis of the shoulder-joint, and believe that before quitting this department of the subject, the relation of a third may not be found out of place, or devoid of interest.

Case.—James Harrison, æt. 78, residing in the neighbourhood of St. Martin's Lane. The patient, a tall, emaciated, and feeble man, who for many years has been labouring under a large scrotal hernia, combined with hydrocele on one side, and an equally large femoral rupture on the other—states that in the year 1805, he "got thoroughly wet through," and the next morning suffered from rheumatism of the right shoulder, but in no other part. This was the first attack of the complaint he had experienced, and for it was attended by Dr. Hope, in Edinburgh. The treatment adopted relieved him of the affection in a short space of time. From this period to the winter of 1847 the joint had been free from any uneasiness, except in damp or frosty weather, when a "sensation of gnawing" was complained of in the part, and continued to trouble him whilst the inclement weather lasted. This inconvenience, however, has not been of a nature to prevent him following his usual work, that of a gentleman's servant. In unfavourable weather, the pain was always aggravated at night, or, as he says, "when warm in bed." In the winter of 1826, whilst employed in dislodging snow from a house-top, he caught a violent cold, through getting his feet wet, and from that time the left hip has been affected with rheumatic pains, which, like those of the shoulder, were found to be invariably increased in frosty or damp weather, and when in bed. The pain was always especially felt "the first thing in the morning," whilst a sensation of cracking and grating in the joint was frequently complained of; at the same time, the sound emitted, particularly when rising from a sitting posture, has been audible to, and remarked upon by, the by-standers. Nine or ten years ago he became, for this complaint, a patient in the Middlesex Hospital, under the care of Mr. Arnott. Various applications were employed without relief; and at the expiration of a month, the nature of the disease and its intractable character having been explained to him, he quitted the hospital. At this time he walked lame, and was informed, after admeasurement of the limbs had been made, that the left leg was shorter than the right one. At present no great difference is to be noticed, inasmuch as the opposite hip has become affected.

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[*] MEDICAL GAZETTE, vol. i.

[*] Guy's Hospital Reports, 1847.

To return to the shoulder. No distinct attack of rheumatism occurred to it since the one above mentioned; but it has continued the seat of the same symptoms as those previously described during the last twelve months. On applying a hand over the joint, then rotating and circumducting the humerus, a very well-marked "articular crepitus" is heard, and the peculiar sensation characteristic of it also is communicated to the touch. The crepitus is most readily felt when, in circumduction, the arm passes forwards from the side of the chest, the movement producing at the same time an indescribable uneasiness in the articulation. Pressure on the deltoid muscle, so as closely to approximate the joint surfaces of the humerus and scapula, gives no pain, nor is any inconvenience experienced when the head of the humerus is directed against the under part of the acromion process. The arm can with difficulty be elevated, directed forwards or backwards. The deltoid of either side, in common with the muscles generally, is much wasted; little, if any, difference is to be noticed, however, between the two sides. Measurement does not shew the right humerus to be nearer the acromion process than it is on the left side.

An incessant dull pain, aggravated by motion, is complained of in the joint, and extending thence down the front of and along the inner side of the arm to the elbow.

The acromio-clavicular articulation presents a partial dislocation of the clavicle, which is elevated, and appears to be fixed near to the upper edge of the articular surface of the acromion process. This joint on the opposite side is in all respects normal.

Acromio-clavicular joint.—This part is not always affected when the shoulder is attacked, but I find it is not unfrequently so. It soon becomes the seat of a partial dislocation of the clavicle upwards, and an unnatural degree of mobility is present, or the bone may become fixed in its new situation by soft anchylosis, as in the instance referred to. I have lately had the opportunity of dissecting a joint which was in the first-mentioned condition, and found the ligaments to be highly developed; the synovia thick and abundant, the bones large and strong, the articular surfaces expanded, partly divested of cartilage, and marked with other characteristics of the disease. An inter-articular body was seen occupying, as it usually does when present, the superior half only of the articulation. It was wedge-shaped, and firmly attached by the broad end to the thickened ligament above; the lower having been, as it were, worn down, and become fringed and free. The shoulder-joint was healthy.

The disease has been noticed in this situation by Mr. Labatt in a case where the shoulder was similarly affected. "The acromio-clavicular articulation," he observes, "was remarkably relaxed, admitting of extensive rotatory motion. The superior ligaments were much thickened and hypertrophied, and enclosed three or four minute cartilaginous nuclei, one of which pressed in on the joint. Synovial membrane nearly absorbed; investing cartilage thin and softened."

[To be continued.]

CONTRIBUTIONS TO PATHOLOGY.

CASE OF SUDDEN DEATH — ABNORMAL POSITION OF THE ABDOMINAL VISCERA.

By **William Robbs**, Surgeon, Grantham.

A case possessing considerable interest occurred a few days back in the Grantham Union Workhouse. It was brought under the author's notice from the circumstance of the sudden death of a poor man, which caused a judicial inquiry as to its nature, and, consequently, afforded an opportunity for a post-mortem examination. The circumstances of the case preceding the death of the subject of the inquiry were as follow:—About three weeks back he complained of being ill, labouring under fulness and tenderness of the abdomen, and unable to perform his duties as a servant. For this he sought the assistance of Mr. Collingwood, a surgeon of Corby, who considered him labouring under inflammation of the liver. He was bled, blistered, and had the usual remedies prescribed.* As his recovery was slow, it was thought advisable by his master to remove him into the Grantham Workhouse. On Monday, the 26th of June, 1848, Miles Durkin, aged 26 years, the man in question, was admitted into the sick ward of the above institution. On the following day he was seen by the author, who found him complaining of pain and swelling of his ankles and feet; fulness of the abdomen; pain in his left side, in the region of his heart; loss of appetite, and thirst. His countenance was pale; tongue red; pulse 100, small, irregular, and compressible. He stated himself to have suffered from rheumatic pains of his joints. Small doses of calomel and Dover's powder were prescribed, to be given at intervals, followed by saline diuretic draughts. On Wednesday, the 28th, he appeared very much relieved; the swelling of the ankle-joints was reduced; he had taken his food, and retained it on the stomach. He was recommended to persevere with the remedies. On Thursday he was not visited; and early the following morning he requested the nurse to let him have his clothes, as it was his intention to return on foot to Osgodby, a distance of about ten miles. On Saturday he was brought back to Grantham, and in the evening presented himself at the workhouse with a vagrant ticket for a night's lodging. The porter of the establishment aroused the vagrants about half-past six o'clock on the following morning: the deceased got out of bed, and commenced dressing himself; and while in the act of stooping to put on his shoes, stretched himself backwards and expired. An examination of the body was made, under the direction of the Coroner, nine hours after death, in the presence of Mr. Priest and Mr. W. E. Robbs. Externally it presented slight swelling, and œdema of the ankle-joints, feet, and hands; a frothy mucous fluid was issuing from the nostrils and mouth, which the slightest pressure over the sternum increased. On dividing the integument, the cellular and muscular substances presented a firm and healthy appearance. The chest being opened, both cavities were replete with effusion of serum; the lungs were enormously distended; the bronchial tubes, trachea, and larynx, were likewise filled, presenting the appearance of suffocation from drowning. The pericardium contained about half a pint of the same fluid; the heart itself presented a healthy appearance, and was not enlarged; the auricles contained dark coagulated blood; both ventricles were distended with firm pieces of fibrin, and the valves of the left were obstructed by small fleshy excrescences. The abdomen was next examined, when it presented a very unusual appearance. The liver occupied the whole of the left hypochondriac, epigastric, and part of the right hypogastric regions; the organ itself was nearly double its natural size; the large lobe and its greatest bulk occupied the left side. The stomach, with the spleen, was placed in the right hypochondriac region; the cardiac end of the former was on the right, while the pyloric extremity presented itself on the left side. The spleen was partly disorganised by inflammation and suppuration. The cæcum, with its appendix vermiformis, was placed in the left iliac region. The peritoneum forming the omentum major, and portions covering different parts of the intestines, were of a scarlet colour. The arch of the colon and rectum were very contracted; the kidneys and bladder were healthy. The head was not examined. What renders this case of interest is the circumstance of the organs of the abdomen all being placed in an abnormal position; and although the author has himself performed, assisted, and witnessed several hundred *post mortem* examinations, he never met with the same phenomenon.

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* Evidence at the inquest.

REPORT OF A CASE OF

POISONING BY THE SEEDS OF JATROPHA CURCAS,

(THE PHYSIC-NUT OF THE WEST INDIES).

By H. Letheby, M.B.

Lecturer on Chemistry at the London Hospital.

On the afternoon of Wednesday, June 28th, James Cole, aged 36 years, presented himself for medical relief at the London Hospital. He stated that his occupation was that of a labourer in the London Docks; that in the morning, while at work there, he met with a broken bag containing some seeds, of which he produced a sample—(they were the seeds of *jatropha curcas*): that in consequence of being told by two sailors who were passing at the time, that the seeds were wholesome, he removed the husks from five of them, and ate the kernels; but that he had no sooner done so than another sailor, whom he met, assured him that he was eating a rank poison; this he soon found to be the case, for, after the lapse of from ten minutes to a quarter of an hour, he began, he said, to experience a burning sensation in his mouth and throat; and the abdomen felt sore and distended. In the course of a few minutes after this he was seized with violent sickness; and during the subsequent hour he vomited five times, and was very actively purged. The burning sensation in the fauces, and the pain in the abdomen, still continued; he also felt hot and feverish. Towards the termination of the first hour and a half, a profuse perspiration broke out upon the whole surface of his body; and then he became so exceedingly weak as hardly to be able to walk about. During the next half hour this debility had greatly increased; he felt extremely giddy, became delirious, and was ultimately quite insensible. He remained in this state nearly twenty minutes; but in another half hour he had so far recovered as to be able to walk to the London Hospital, where he presented himself after an interval of about four hours from the time at which he partook of the poison. At this period he was very weak, and complained of a sensation of heat and dryness of the mouth and throat, of numbness in the tongue, and of pain in the abdominal region. His countenance was pale, and somewhat anxious; the pupils were natural; the hands rather cold; the pulse 140, and weak. By means of an opiate and a mild cordial, he was soon relieved and enabled to return to his home.

I am not aware of any recorded instance of accidental poisoning from the seeds of *jatropha curcas;* and this is somewhat remarkable, considering that the physic-nut is so frequently imported into this country. I have been informed that the kernels of them are used as a purgative for cattle; and I believe that they are also used for the manufacture of what is now and then met with at our drug sales under the name of English croton oil.

This case indicates that the primary action of jatropha seeds is that of an irritant affecting the mouth, throat, stomach, and bowels, producing heat, pain, vomiting, and purging. Their secondary action is upon the nervous and vascular systems, occasioning giddiness, delirium, and a great depression of the vital powers: the latter being characterized by weakness, syncope, and a feeble pulse. In these respects, their action is very similar to that which arises from the seeds of *Croton tiglium* and *Ricinus communis,* plants which belong to the same family as the *jatropha.* In illustration of the effects produced by the former poison, I may mention the following case, which has been recorded by Dr. Pereira:—A labourer, aged 31, had been exposed during eight hours to the dust of croton seeds; he experienced a burning sensation in his nose and mouth; tightness at his chest; epigastric pain, giddiness and insensibility. On his admission into the London Hospital, he appeared in a state of collapse; his countenance was distressed; his pulse 85, and the surface of the body cold. He stated that his tongue felt too large for his mouth, and appeared to be without feeling. Hot brandy and water were given to him, and he was put to bed with evident relief.

As an instance of poisoning by the latter, I may refer to the cases which are mentioned by Mr. Alfred Taylor. Three sisters made use of the seeds of the castor oil plant; one ate twenty of them; another ate four or five; and the third only two. They were all taken ill, but deceased, who partook of the largest number, became faint and sick; her skin was cold, and dark coloured; her features pinched; the pulse was small and wiry; there was restlessness, thirst; pain in the abdomen; and she lay in a sort of drowsy, half conscious state, like one suffering from malignant cholera.

Mr. Bennet says that four of the jatropha seeds will act on a man as a powerful cathartic; but it is evident from the case here mentioned, that danger might be incurred by the administration of such a dose; in fact, Dr. Christison states that he has known violent vomiting and purging occasioned by a few grains of the cake left after the expression of the fixed oil from the bruised seeds. It appears from this, that the poisonous principle of the jatropha, like that of the croton and ricinus, exists in the solid and non-oleaginous parts of the seed. This view is confirmed by another statement made by Dr. Christison, that from twelve to fifteen drops of the oil expressed from the physic-nut, produced exactly the same effects as an ounce of castor oil. Now I have found that three kernels will only yield one drop of oil; it would, therefore, take from 36 to 45 seeds to produce the dose mentioned by Dr. Christison; and it is scarcely necessary to say that even 36 of the seeds would be quite sufficient to occasion the death of an individual.

MEDICAL GAZETTE.

FRIDAY, JULY 21, 1848.

We have great pleasure in giving insertion this week to a letter addressed to the medical profession generally, by the Poor-law Medical officers of the Upton-on-Severn Union.* These gentlemen have brought their case in fair and temperate language before the Board of Guardians, and have proved that the salaries which they have received for medical attendance on the poor are quite inadequate to cover the expenses incurred. The amount of remuneration varies, it appears, in different districts,—the minimum being one shilling and sevenpence, and the maximum four shillings, per case. The great difference thus brought to light is sufficient to shew that there is something radically wrong in the system of payment adopted. The maximum payment, it is obvious, falls far short of what in reason and justice it ought to be, either to secure efficient medical attendance on the destitute, or, when the duty is conscientiously discharged, to recompense the hard-worked country practitioner for the time, labour, skill, and responsibility, which must be incurred by Union practice. The whole system is marked with injustice as well as inconsistency, and the sooner the Chief Commissioner, aided by a committee of respectable medical practitioners who have a practical knowledge of the duties to be performed, can give his attention to the subject, the more satisfactory will it be to the profession as well as the poor; and the more creditable to himself, as the occupant of a highly responsible office. At a meeting which a deputation of Poor-law medical officers had with Sir George

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* See Page 127.

Grey on the 30th May,* some facts were stated which made out a case not only for immediate supervision, but for the issuing of a stringent order for the increase of medical salaries in those Unions in which Boards of Guardians had not of their own accord already adopted a more liberal system. Dr. Burton pointed out a disgraceful anomaly in the mode of payment. In some districts the remuneration amounted to sixteen shillings, while in others it was actually below *sixpence* per case! Here we have even a greater difference than that complained of in the letter of the Union officers of Upton-on-Severn. But another strange feature in the system is, that prison practice is far more lucrative than Union practice. At the meeting above referred to, it was stated on good authority that the average payment for attendance on prison patients was no less than thirteen shillings and sixpence per case; so that, a destitute person who commits a breach of the law becomes a more profitable patient than one who, by honesty and well-directed industry, contrives to keep outside of the walls of a prison! We can only explain the difference by the fact, that medical officers of prisons cannot be so readily found as medical officers to Unions; and the offices are not filled by a system of low competition, at the dictation of a Board whose object is to cut down the salaries to the lowest possible scale, regardless of the consequences to the medical officer and the pauper. When a pauper dies in a prison, an inquest is commonly held on the body, and a close inquiry is made into the mode of treatment, general and medical. Any thing wrong is immediately brought to the notice of the public, and the unfortunate practitioner, as well as the Government which employs him, comes in for a tolerable share of abuse from some busy Parliamentary reformer desirous of adding a little to his popularity. Inquests, it is true, occasionally take place on the bodies of paupers who die out of the precincts of a prison; and there is then often revealed a system of neglect and mismanagement which is disgraceful to the institutions of a civilised country. A medical officer represents the urgency of a case to one of these economical Boards, and applies for an order. This is refused, and the pauper falls a victim to sheer neglect. The medical officer is then held up as guilty of inhumanity, because he did not neglect his other duties to attend a patient whose claim to parochial medical relief the board had peremptorily refused to recognize. On the other hand, if he had attended, and the patient had recovered under his care, the Board would have declined awarding any payment for such attendance, and would have justified themselves by the refusal of an order, although the refusal virtually consigned the pauper to a grave. Without having the smallest desire to add to the pecuniary profits of coroners, rendered already sufficiently large by reason of unnecessary or ill-conducted inquests, we think that if for one year an inquest were held upon each pauper who died in a Union as upon each inmate of a prison, such an amount of neglect and cruelty would be brought to light, that the present system would of necessity be immediately abolished. By this remark we by no means intend to impute blame to the medical officers of Unions generally: on the contrary, taking them as a body, we believe them to be not only highly humane and charitable, but willing, as far as their means will allow them, to benefit the poor by their skill, with the certainty that they will receive no compensation for their services. But the tender-system, and the plan now about to be adopted by the Upton Board, of seeking to obtain professional services at a salary which it is clearly proved is wholly inadequate to cover the expenses, must tend to encourage a bad class of practitioners—men on the verge of starvation, who will accept office with a resolution to do as little as possible, and who are as regardless of their own professional conduct and character, as they are of the interests of the sick poor. The result of a coroner's inquest or a trial at the assizes, may be the means of their dismissal from office; but unfortunately, from the over-stocked state of the profession, there are others who are too often ready and willing to take their place.

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* See our last volume, p. 1048.

The course taken by the Upton Union officers, although likely to damage their interests for a time, by leading to the importation into the district of an unscrupulous set of rival practitioners, is that which we think conscientious medical men so situated should invariably adopt. It is clearly proved that the salaries are inadequate to the duties;—that they are not only unreasonably low, but much lower than in many surrounding districts;—that population, and consequently proportionate sickness, have increased since the scale of salaries was first framed;*—that the *maximum* amount per case is *one third less* than that recommended by the Poor Law Commissioners, and that a progressive increase to this amount would meet the wishes of the applicants. Their fair and just propositions have, however, been rejected by the Board, and the medical officers have consequently resigned. We do not know a stronger case than this for proving that Local Boards should *not* be entrusted with an arbitrary power of dealing out injustice in this wholesale fashion. The conduct of the Upton Board proves that it is composed of men who, either without the capacity to understand the nature of their duties, or wilfully perverse in refusing to adopt an equitable arrangement, sanctioned and recommended by the Poor Law Commissioners. In either case, their utter incompetency to exercise an irresponsible control over members of the medical profession, is clearly established. If they seriously carry out their plan of advertising for other medical officers, the advertisement might fairly run in the following terms:—

"Wanted, for a Union, *twenty miles* in length, and containing a population of 16,724 persons, some regularly qualified *gentlemen*, who will undertake the medical attendance of the poor at the average rate of *two shillings* per case per annum. They will be required to provide drugs, horses, &c."

The amount will clearly not pay for the medicines likely to be required in any one case, and the attendance must of course be given gratuitously! If medical practitioners only act fairly by each other, these guardians will search in vain for officers to supply the place of those whose resignations they have most injudiciously accepted; and it would not be long before the evil system upon which we have commented, was entirely abolished. The naval Assistant-surgeons have recently set a good example: let candidates for Union medical practice act in like manner, and we shall no longer be called upon to insert appeals to professional feeling and fair dealing like that made by the Upton medical officers.*

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* That there is something specially oppressive to the members of the medical profession in the conduct of certain Boards of Guardians, is proved by the fact that owing to the increase of duty, the salaries of the clerk and relieving officers of the Upton Union have been recently augmented. Now, we think it clear that this augmentation has been either made most unnecessarily, or there is good reason for extending it to the salaries of the medical officers.

* Since the above was written, we have received from the Poor-Law Medical Convention Office

Reviews.

General Index to the British and Foreign Medical Review or Quarterly Journal of Practical Medicine and Surgery. Edited by John Forbes, M.D. F.R.S. &c. Vol. XXV. 8vo. pp. 303. London: Churchill. 1848.

We take the earliest opportunity of announcing the publication of this useful companion to the possessors of the British and Foreign Medical Review. A work consisting of twenty-four closely printed volumes, and containing in a condensed form a complete analysis of British and foreign medical literature, extending over a period of twelve years, was obviously in need of a general index; for it could not be expected that any reader would afford time or patience to wade through the indices of twenty-four volumes for the sake of a single reference. Happily for those who, like ourselves, place great value upon the contents of this excellent periodical, such a trial of patience is no longer necessary. The volume before us supplies the deficiency, and enables a reader to trace out an article or an author with the greatest facility. Short as the period is which has elapsed since we have received a copy of this index, we have had frequent occasion to refer to it, and have hitherto invariably found it correct. The preparation of the index must have been a work of enormous labour; for a mere transcript of the indices of the volumes, without further references, corrections, and additions, would have entirely failed of its object. Every author knows that there is no part of his labour so tedious or so wearisome as that which is directed to the tabulating of the contents of his volume in alphabetical order; and there is at the same time no part of the work in which, to the unreflecting, care and labour are so little apparent. Yet what is the best work of its class without a good and copious index? It is like an extensive library rich in valuable works without a catalogue. Then, again, index-making is not, as some are apt to imagine, a mere mechanical art. The compiler must enter into the thoughts of a large number of readers, and consider under what heading each is likely to seek for a case, paragraph, or report, bearing upon some particular doctrine or point of practice. He must divest himself of his own peculiar views in his own favourite branch of the profession, in order to place his matter in a form readily accessible to all. If this remark applies to the index-maker of a treatise on medical science, it applies with tenfold force to him who would compile a serviceable index for a periodical of many years' standing.

The following extract from the preface will give some idea of the mental labour which this index has cost; and it is highly creditable to the compiler, Dr. Robert Bower, that, for the purpose of facilitating references, he has actually devoted more than the usual amount of labour to his task.

> "The alphabetical arrangement is carried out to an unusual extent; all the subordinate references under each separate heading being placed in strict alphabetical order also. All the AUTHORS' NAMES, except when occurring in the subordinate references, are printed in CAPITALS: by this arrangement the necessity of having a separate LIST OF AUTHORS is avoided, as the difference of type will attract the immediate notice of readers."

In turning over the pages, we find copious references given to every subject of interest in every branch of the profession. It is hardly requisite to say that this Index is indispensable to those who have the Review; and an examination of its contents will doubtless induce many at the eleventh hour to become purchasers of the remaining copies.

Memoranda for Young Practitioners in Midwifery. By Edward Rigby, M.D. 2d edition, considerably enlarged. Small 32mo. pp. 64. London: Renshaw. 1848.

Many of our student-readers are doubtless familiar with this little companion, which may be easily carried in the waistcoat pocket. The preface informs us that the first edition of 2000 copies has been for some time exhausted—a proof that the Memoranda have already met with a very favourable reception from the profession.

To those who are unacquainted with this little book, we may remark that it

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an address to the profession, taking the same view of this question as that which we have advocated.—(See page 129.)

is a concentrated essence of useful practical information on pregnancy and the treatment of labour, and its sequelæ. The subjects of which it treats are arranged in twenty five sections, and to it is appended a series of useful formulæ.

Dr. Rigby's experience, as an obstetric practitioner, is sufficient to guarantee the accuracy of the information conveyed in this aphoristical form; and we do not hesitate to recommend his "Memoranda" to all students and junior members of the profession who are engaged in the study and practice of midwifery. There are other medical sciences upon which compendiums on this scale would be highly serviceable. In the meantime, as a large amount of knowledge may be thus circulated in a microscopical form, it behoves examiners who forbid references to books, to determine whether the pockets of candidates should not henceforth undergo a strict search before they are admitted to the ordeal of an examination.

Portraits of Diseases of the Skin. By **Erasmus Wilson**, F.R.S. Fasc. III. London: Churchill, 1848.

The third part of this excellent work, which we have now before us, contains illustrations of *Acne Vulgaris, Erythema Palmare, Urticaria Perstans,* and *Melanopathia Syphilitica.* We shall only remark of these illustrations, that they are just as admirably executed as those which have already appeared in the two foregoing fasciculi. Great credit is due both to artist and printer. The lightness of the lithographic printing is such that the coloured shades of the skin have their proper natural appearance unmarred by the blackness of the lithographic ink. The colouring in the illustration of *Acne Vulgaris* is especially worthy of praise. Acne is here seen in all its stages, and the artist has contrived to give to the disease the perfect characters of inflammation and suppuration. A report of each case which has served as an illustration is attached, giving a short but complete history of the disease and the influence of treatment. We can confidently recommend this in the terms in which we have already recommended the preceding parts, to the notice of the profession.

Proceedings of Societies.

ROYAL MEDICAL & CHIRURGICAL SOCIETY.

June 27, 1848.

J. M. Arnott, Esq. F.R.S., President.

On the Utility of Trisnitrate of Bismuth in the Diarrhœa accompanying Phthisis. By Theophilus Thompson, M.D. F.R.S. Physician to the Hospital for Consumption and Diseases of the Chest.

The author considers the trisnitrate of bismuth to surpass in efficacy and safety our most approved remedies for this complaint. He has taken every opportunity, during the last twelve months, of testing its powers, and has preserved notes of twenty-one of the cases in which it was administered. Of these, eighteen were phthisis in various stages of progress, and three, bronchitis. In fifteen of the patients the diarrhœa was entirely removed; in four, transient benefit was experienced; and the remedy proved useless only in two instance. The dose administered was about five grains three or four times daily, usually combined with a little magnesia and gum arabic. Dr. Thompson has referred to various authors who have written respecting the properties of bismuth, but has not been able to collect from them any evidence of its powers in the phthisical variety of diarrhœa, but he entertains a strong conviction of its peculiar appropriateness to this affection, and has obtained important confirmation of his experience in a recent communication from Dr. Lombard, of Geneva.

A Plan of Treating Ovarian Dropsy by the Ulcerative Opening of the Cyst after its Permanent Adhesion to the Walls of the Abdomen. By Edward John Tilt, M.D.

The author was led to attempt this mode of cure by observing the process of Nature in some spontaneous and radical cures of ovarian dropsy. His first object is, to establish solid adhesion between the peritonæal covering of the cyst and the peritonæal lining of the abdominal parietes. His second object is, to make the smallest possible opening into the cyst, so that it may not be suddenly emptied, but remain always full, and be only relieved *per stilicidium* of the overplus of liquid distending its cavity, while it gradually contracts. To attain both these objects he adopts the plan which has often been successful in effecting the adhesion of hydatid cysts of the liver to the abdominal walls. It consists in the application of Vienna paste to the appropriate part of the abdomen. He relates one case in which a radical cure of an ovarian cyst was effected by this means.

A lady, who had always enjoyed good health, ceased menstruating at forty years of age. Soon afterwards, having been exposed to cold, she was seized with violent pain in the left iliac fossa, followed by shivering and high fever. When these symptoms were relieved, a tumor of the size of an orange was felt in the situation of the left ovary. This tumor gradually increased, and in a short space of time the patient had the appearance of being nine months gone with child. Vienna paste was applied to the pit of the stomach; an eschar was produced, and fell off, and afterwards a small opening was formed by ulceration, through which an albuminous ropy fluid escaped. The abdomen was supported by moderate pressure. In a few weeks the discharge became purulent and offensive. Tepid water was then injected into the cyst daily for some months; the cyst gradually contracting, so that at length it would receive only an ounce of water. In about a year the patient was in effect well, although for several years a fistulous opening remained at the pit of the stomach. In the course of the case the cyst formed a communication with one of the intestines, and for several days the patient passed purulent stools, while, during that time, no pus escaped from the external wound.

Case of Hydatid Disease of the Liver cured by Operation. By George Owen Rees, M.D. F.R.S. Assistant-Physician to Guy's Hospital, and Principal Medical Officer to the Pentonville Prison.

The case is detailed at some length. The patient was a man aged thirty-one years; admitted into Guy's Hospital on the 13th of October, 1847. Examination of his abdomen detected a distinct tumor occupying the right hypochondriac and epigastric regions. Fluctuation could be felt in it. On the 4th of December the tumor was tapped by Mr. Hilton, with a trocar and canula not larger than an ordinary exploring needle, straps of plaster having previously been passed round the body, so as to fix the tumor in position, and to exert pressure upwards. Thirty-eight ounces of clear fluid were removed. The wound quickly closed. On the 7th of January, the tapping was repeated, with the same instrument, and with the same precautions, as before. On this occasion pus of a very offensive odour escaped, and only ten ounces were obtained, owing to the canula becoming obstructed. On the 9th of January the tumor was tapped a third time with a full-sized trocar and canula, an elastic gum-tube being passed through the canula. Twenty-four ounces of fœtid pus escaped, with membranous flakes, and partially-destroyed hydatids. The opening was maintained, and fœtid pus, with, occasionally, hydatids, continued to be discharged (the capacity of the sac at the same time diminishing) till the commencement of April. On the 11th of April the discharging orifice had closed, and no remains of the tumor could be found unless it were a body about the size of a walnut, below the right lobe of the liver. The author comments upon the diagnosis of the disease, the propriety of the operation, the degree of danger attending it, and the precautions adopted to avert evil results, and concludes with some remarks on the nature of the fluid discharged from the sac.

On the Internal Use of Turpentine Oil in cases of Hæmorrhage. By L. Percy, M.D. Lausanne, Switzerland.

The author, after noticing the fact that several writers — Adair, Nichol, Johnson, Warneck, Copland, Ashwell, and Pereira — have spoken of the efficacy of the essential oil of turpentine in hæmorrhagic diseases, observes that this remedy seems nevertheless to be little used by practitioners. In the cases in which he first made trial of it, hæmaturia of two years' standing, in an old man of eighty, was stopped in twenty-four hours by eight drops of oil of turpentine, and did not return. He has since used it in different cases of hæmorrhage, and always with a favourable result. The cases in which its use is indicated are those of passive hæmorrhage. It must not be employed in cases where there is an active determination of blood, and where the pulse is full. When the discharge of blood is the consequence of organic disease, as of disease of the uterus, or of tubercular disease of the lungs, the action of the remedy is not so efficacious; but the author has seen a case of scirrhus of the womb, in which the hæmorrhage was for some time stopped by this remedy. The author has found the action of turpentine oil very rapid, an effect being manifest in a few hours, often after one small dose. In order better to ascertain its power, he used it alone, without having recourse to local astringents or cold applications, where he could do so without fear of endangering the life of the patient. He has used it most frequently in cases of menorrhagia and epistaxis; but he mentions, that it appears to him to be particularly applicable in the cases of hæmorrhage attending typhus. He noticed the fact that turpentine exerts different actions on the body according as it is taken in large or small doses, being more readily absorbed in the latter case; and he remarks, that as its beneficial action in cases of hæmorrhage must depend on its being absorbed, the inference would be drawn, that the doses in which it is given in such cases ought to be small. His experience confirms this conclusion. He has always found a dose of from eight to thirty drops sufficient. The best vehicle for it is almond emulsion, with a little gum arabic. When there is pain in the abdomen, a few drops of laudanum may be added.

Case of Hydatids within the Cranium, giving rise to some singular Phenomena. By James Stewart, M.D. Surgeon, Royal Artillery, Woolwich. [Communicated, with some prefatory observations on Intra-cranial Hydatids, by George Gregory, M.D. Physician to the Small-Pox Hospital.]

In the first portion of this paper, Dr. Gregory remarks on the greater rarity of acephalocysts, or hydatids, in the intra-cranial structures than in the thoracic or abdominal tissues, and refers to Dr. Craigie's observation that in the greater number of recorded cases only solitary serous cysts existed, not clustered hydatids. After noticing briefly three cases, one described by Rendtorff, a second related by Mr. Mowatt, of Worthing, in the second volume of the *Medico-Chirurgical Transactions*, and the third communicated by Mr. Burnell to the late Dr. Baillie, who remarked that none such had ever fallen under his own observation, Dr. Gregory states, as the result of his reading, that the normal series of symptoms flowing from the development of intra-cranial hydatids seem to be the following :—Pain in the head, succeeded, after a considerable time, by epileptic fits, and terminating in apoplexy. The Pathological Museum of the Army Medical Department at Fort Pitt, Chatham, contains two specimens of hydatids of the brain. An account of all that is known relative to these cases has been furnished to Dr. Gregory by Dr. French. In the first case no cerebral symptoms were noticed during life. After death, cysts, described as hydatids, were found beneath the pia mater, covering the hemispheres, in the right corpus striatum, and in the substance of the cerebrum in its immediate vicinity. In the second case, epileptic fits were present for three years and five months before death. Here there were small round bodies, like hydatids, some hard and almost cartilaginous, not only beneath the pia mater, but also generally throughout the substance of both cerebrum and cerebellum. They were collected to the amount of an ounce or more. Each consisted of a distinct membranous sac, which sometimes appeared double, and in layers like an onion. All the cysts contained a clear fluid, with more or less cheesy-looking matter. Dr. Gregory then communicates the following case, which, at his request, had been transmitted to him by Dr. Stewart :—The patient, a gunner of the Royal Artillery, aged twenty-four years and nine months, was admitted into the Artillery Hospital, Woolwich, on the 29th of April, 1848, immediately on his arrival from Malta, with the following history :—He had arrived in Malta with his company in February, 1847, and from that time suffered from constant headache. In November, 1847, he had a severe epileptic fit, followed by coma. Subsequently imbecility showed itself, and his vision became impaired, the pupils being sluggish, and the left eyelid affected with slight ptosis. His memory became defective, and he became subject to immoderate and uncontrollable fits of laughter when spoken to. When he arrived at Woolwich, he still presented the last-mentioned most remarkable symptom. His hearing was a little affected, but both eyes were amaurotic; he staggered in his gait like a drunken man, and the expression of his countenance was idiotic. On the 22nd of May, a large piece of meat which he had attempted to swallow stuck fast in the œsophagus, and he was only saved from suffocation by tracheotomy. A few hours afterwards, epileptic fits ensued, and were followed by coma, in which he died on the following morning. On examining the body, there was found in the middle fossa of the base of the cranium, between the cranial bones and the dura mater, a mass, the size of a closed fist, which proved to be a nest of hydatids. The hydatids were very numerous, and varied in size from that of a large pea to the dimensions of a small orange. The contiguous bones were roughened. The substance of the brain, which, together with the dura mater, was pressed towards the right side, presented no abnominal appearances. The lateral ventricles were filled with a clear fluid.

Case of Obturator Hernia, with Symptoms of Intestinal Obstruction within the Abdomen, to relieve which the Abdomen was opened. By John Hilton, F.R.S. Assistant-Surgeon to Guy's Hospital.

Miss ——, aged 36, in September, 1847, had some severe pain and local tenderness on pressure on the right side of the abdomen, above Poupart's ligament, with continued constipation and some vomiting. During several days these symptoms were relieved by the local application of leeches and fomentations, and the use of aperients and purgative injections. From that time she continued in her usual health until Jan. 20th, 1848, when she was suddenly seized with symptoms of strangulated hernia; but no hernia could be detected, although she was repeatedly examined in reference to that point. Various means were employed, without any permanent relief to the symptoms of strangulated intestine. These means were continued during eleven days, when, in in consultation with Dr. Fox and Mr. Blackmore, of Old Street Road, in whose practice this case occurred, it was resolved to recommend the patient to submit to an operation, the whole importance of which was fully explained to her. On the twelfth day from the first symptoms of strangulated intestine, Mr. Hilton opened the abdomen by cutting in the median line below the umbilicus, and ascertained the existence of an obturator hernia, which had not been at all suspected to exist. The intestine was withdrawn from the obturator opening by laying hold of it within the abdomen: no external tumor could be at that time detected in the upper part of the thigh. The operation was performed (with the patient under the influence of chloroform) in the morning, and the patient died in the evening of the same day. The post-mortem examination gave evidence of extensive recent peritonitis. The portion of intestine which had been in the hernial sac was distinctly seen, and on examination was found to have been in a condition favourable to recovery. The hernial sac remained fixed in the thigh; the parts surrounding it were dissected; and a drawing is annexed to the record of the case, showing the position of the hernia.

Congenital Malformation and Structural Disease of the Heart in a Child. By Frederic Robinson, M.D. Assistant-Surgeon 74th Highlanders.

G. J——, a male child, aged one year and a half, had suffered from his birth from violent palpitation of the heart, and dyspnœa, which had latterly increased in severity: the child had otherwise thriven. The veins at parts were prominent, but the general hue of the skin was scarcely abnormal. The heart's action was quick and violent, and heard over a great space, the sound being accompanied by a loud sawing noise. The child died with these symptoms.

Autopsy.—The left lung was reduced to nearly one-third of its normal size by the encroachment of the heart, and studded with tubercles. The distended pericardium contained about four ounces of serum. The right ventricle was large enough to contain a hen's egg, and was filled with a firm coagulum. The free border of the tricuspid valve was thickened to such an extent as to prevent its perfect closure; the pulmonary artery and valves were healthy. The left auricle presented no musculi pectinati, except in its appendix, its walls being as thin as a portion of intestine. A circular orifice, almost as large as the little finger, existed in the septum in the ventricles, opening beneath a muscular fold in the right cavity, and, in the left, immediately below the aortic semilunar valves. The foramen ovale was closed, and no remains of the ductus arteriosus existed.

History of a Case of Dislocation of the Head of the Femur backwards; with some Observations on that Form of Dislocation. By Richard Quain.

An opportunity having occurred to the author of making a dissection of the parts concerned in a recent case of dislocation of the femur, he availed himself of it, and has embodied his observations in this communication to the Society. The subject of the injury, a man aged 60, was killed by a fall from a ladder, the cause of death being extensive fracture through the base of the skull. Considerable deformity being observed in the right lower limb, the author was induced to make a careful examination of the extremity, with a view to detect the nature of the injury it had sustained. It was apparently, but not really, much shortened; it was also inverted, and separated from the sound limb. The trochanter major was altered in its relation to the iliac spine, and the depression behind it was wanting: the head of the femur could be felt towards the back of the pelvis. The limb could be flexed, but not rotated outwards. On removing the glutæus maximus, the head of the dislocated bone was exposed below the pyriform muscle, and immediately behind the acetabulum. The pelvis had sustained a fracture, but the fragments were not altered in their relation to each other. The obturator externus, quadratus femoris, and some deep fibres of the glutæus medius, were torn through. The inner and lower part of the capsular ligament was separated from the neck of femur, and the round ligament was torn from the depression on its head. The great sciatic nerve was stretched but not injured, as were also the obturator internus and gemelli muscles. The brim of the acetabulum was slightly fractured. After giving the above details, the author remarked that there are points of contrast between the present and other cases which have been recorded of a similar accident; and proceeded to quote the history of the dissection in a few instances of the form of dislocation in question. The first was a case from Sir A. Cooper's "Treatise on Dislocations;" the second, one reported by Dr. Scott in the third volume of the "Dublin Hospital Reports;" and a third, described by M. Billard, in the third volume of the "Archives Générales de Médecine." He then proceeded to comment on these cases, directing attention particularly to the following points:—1st, the condition of the structures immediately interested in the dislocation, and especially the exact position of the femur; 2dly, the characteristic signs of the displacement; and 3dly, the restoration of the bone to its natural position. The practical inferences drawn by the author from the foregoing observations may be summed up as follows:—1st. In the ordinary form of dislocation backwards, the femur does not reach the sciatic notch. 2d. The head of the bone is lodged immediately behind the acetabulum, over the base of the ischiatic spine, and opposite to a small part of the sciatic foramina. 3d. The injury would be correctly named the dislocation of the head of the femur backwards. 4th. During the extension made to reduce this dislocation, the thigh is most advantageously directed across the pelvis, so that it shall form a right angle, or nearly a right angle, with the abdomen. At the same time the limb is to be in a state of abduction; the femur will thus be drawn away from the pelvis, forwards and outwards. The knee is to be bent, the extending force being fixed above the joint.

LIVERPOOL PATHOLOGICAL SOCIETY.

The following morbid specimens were exhibited by Mr. Steele:—

Tubercular Deposit in the Peritoneum.

This was taken from the body of a female, aged 28, who died of phthisis. The omentum was the principal seat of the disease, and, as seen in the preparation shown, was converted into a thickened mass, presenting throughout its structure innumerable thickly studded deposits of tubercular matter, varying in size from a pin's head to a horse-bean. The four layers were amalgamated. The deposit appeared to be chiefly in the subperitoneal cellular tissue. The case somewhat resembled those described by Dr. Baron, but was not identical with them, for the latter were cases of chronic scrofulous inflammation of the peritoneum, whereas this appeared to be a pure case of tuberculous diathesis, and might have been unaccompanied by inflammation in its progress. The mesentery contained similar deposits, but to a far less extent. The peritoneum covering the liver, kidneys, uterus, and ovaries, was in a condition similar to that of the mesentery.

The intestines were free, except towards the lower part of the abdomen, where they were agglutinated by a gelatinous fluid.

The liver, on section, presented a mottled appearance. There was a cavity in the apex of each lung.

Pericarditis, Bronchitis, and Pleuritis, occurring as complications of Typhoid Fever.

The subject of this specimen was a man aged 22, admitted into the Fever Hospital on the eighth day of the attack, which commenced with chills, pain in the limbs, cough, and shortness of breath. On admission he presented the usual symptoms of typhoid fever. The conjunctivæ were deeply tinged yellow; the pulse 140, incompressible; respiration laboured, and accompanied with an audible rhonchus. He had cough, with mucous sputa. There were indistinct dull red petechiæ on the trunk and extremities. The physical signs were dulness on percussion on the left side of the chest; clear on the right. The only sounds elicited by the stethoscope were loud mucous râles all over the chest.

The treatment consisted in purgatives, followed by a pill containing calomel, gr. ij.; ipecacuan, gr. j.; extract of conium, gr. ij., and a saline draught, with half a grain of tartar emetic; each to be taken every two hours. A blister was applied to the chest. This treatment was pursued until the fourteenth day, and afforded marked relief. The pulse fell to 120, and was compressible. The tongue became cleaner; the pain and cough were greatly relieved; the mucous râles much diminished; the gums slightly affected by the mercury. The remedies first prescribed were discontinued gradually, and he was ordered saline mixture, with nitric ether and ipecacuan wine. He continued to improve until the eighteenth day, when he became much worse. The pulse was feeble; respiration much laboured; mucous rhonchus loud enough to be heard at some distance. He complained of burning heat all over. He died on the twenty-first day of the attack, and the thirteenth day after admission.

The body examined twenty-eight hours after death.—On removing the anterior parietes of the chest, several small collections of pus were observed in the cellular tissue in the anterior mediastinum. There were very extensive adhesions of both lungs; the surfaces of the pleuræ covered with effusion of recent lymph. There was also effusion of a very large quantity of yellowish serum, mixed with flakes of lymph, in both pleural cavities. The lungs were both much congested. The mucous membrane of the trachea and bronchi highly injected, and the bronchial tubes filled with frothy mucus. On opening the pericardium a considerable quantity of serous fluid escaped. It was not adherent, and its inner surface was completely covered with a deposit of lymph, presenting a network appearance, which covered also the surface of the heart. The valves and endocardium were not diseased, with the exception of a very slight vegetation on the mitral valve. The omentum was much congested, and of a dark reddish colour. The small intestines were also much congested, and presented patches of ecchymosis. All the remaining abdominal organs were much congested, and more friable than usual. The head was not examined.

Pneumonia, Pleuritis, and Bronchitis occurring as complications of Typhoid Fever.

The inferior lobe of the left lung was shown. It presented a well-marked specimen of grey hepatization. The subject from whom it was taken was admitted into the Fever Hospital on the fourteenth day of the attack, which commenced with pyrexia and slight cough. On admission he had cough, with but scanty mucous sputa. The pulse was 100. There were dull red patechiæ on the trunk and extremities. The only physical signs detected were loud mucous râles all over the chest. He was ordered calomel, ipecacuan, conium, and tartar emetic, with vesications and turpentine fomentations to the chest. The symptoms were much relieved until the eighteenth day, the fourth after admission, when he became delirious; had hiccough; a profuse expectoration of very tenacious yellow sputa; and he complained of burning heat all over. On the twenty-first day a remission occurred, and he was much better; but on the twenty-fifth he again became worse, complained of urgent dyspnœa, and pain in the left mammary region, which was partially relieved by turpentine fomentation. He died on the thirtieth day of the attack, the sixteenth after admission.

On examination after death, the left side of the thorax was found to contain about three pints of yellowish serum; there were several old adhesions; the lung was greatly compressed, the lower lobe being, as seen in the specimen, solidified, of greater specific gravity than water, and presenting, on section, a greyish granulated appearance. The right lung was much congested throughout. The lining membrane of the trachea and bronchi was of a bright red colour. The air-cells were filled with a frothy mucus.

In exhibiting the specimens, Mr. Steele thought he might be excused occupying the time of the Society with a brief sketch of the history and treatment of the cases, as he deemed them of much practical interest in connection with the epidemic fever now prevailing (M.rch). In the cases lately admitted into the Fever Hospital, the most frequent complication was bronchial: they presented the usual symptoms of typhoid fever, accompanied with more or less cough and pain in the chest. The only physical signs he had been able to detect in any of the cases—with one exception, in which pneumonia occurred early, was well marked, and yielded to active depletion—were loud mucous râles all over the chest, which appeared to obscure the signs of further disease. Several cases of this kind had been under his notice, some of which recovered, others had died. He had looked upon them as cases of typhoid fever, with universal bronchitis of a congestive rather than an inflammatory character. The above were the only instances in which he had had the opportunity of confirming or refuting his diagnosis by a post-mortem examination. It appeared to him difficult, if not impossible, to detect the existence of acute inflammatory action, obscured as it was by the characteristic symptoms of typhoid fever of an asthenic character, where the physical signs were so much modified, and indeed obliterated, by the more predominant râles accompanying the congestive form of bronchitis. In the cases described, more active treatment than that adopted was not, he thought, indicated by the symptoms during life. He did not expect to have found in either case such evident signs of acute inflammatory action. The general character of the cases which have occurred during the present epidemic has been of an asthenic character, and the results of his experience in the treatment of the prevailing fever of this locality induced him to believe that active depletion was not justified unless unequivocal signs of acute inflammation were present in the early stage of the disease.

Hospital and Infirmary Reports.

LONDON HOSPITAL.

Accident from the bursting of a gun.

Reported by A. W. Moore, Dresser.

John Clayton, aged 67, was brought into the accident room of the London Hospital, on the 20th of April, with an injury to his hand, which he received from the bursting of a gun: upon examination, the hand was found to be much swollen and lacerated; the second phalanx of the thumb was entirely gone, and the first phalanx was almost entirely denuded of its integuments. It was found necessary to amputate the thumb at its metacarpo-phalangeal articulation; the arteries bled freely, and considerable difficulty was experienced in securing them.

After the operation, the patient went on very well up to the 28th of April, when secondary hæmorrhage suddenly took place, and resisted every attempt to arrest it, until the radial artery was tied: this stopped the hæmorrhage for the time, but proved to be only of temporary relief, for the hæmorrhage again broke out in twelve hours after the last operation. Mr. Critchett was immediately sent for, and he determined to tie the brachial artery itself without delay: both because the fore-arm was much swollen, rendering the operation of securing the ulnar difficult; and even if it could be done, the result would be very doubtful: the brachial artery was accordingly tied at about the middle of the arm. From this time no more hæmorrhage took place, and the patient continued very weak and low for two or three weeks, consequent on the repeated hæmorrhages which had taken place, but under a generous diet he gradually gained strength, and the wounds healed kindly. He is now quite convalescent.

Remarks.—Although in this case the injuries were not of a very alarming nature, nor were the operations novel, yet the case will serve as a practical illustration of one or two important points of treatment in surgery.

Correspondence.

RESIGNATION OF THE UNION MEDICAL OFFICERS OF UPTON-ON-SEVERN.—REFUSAL OF THE BOARD OF GUARDIANS TO INCREASE THE SALARIES.

To the Medical Profession.

Gentlemen,—It is with feelings of no common character, but which will be readily understood by those of you who hold, or have held Union appointments, that we beg your attention to the following statement of some recent proceedings in this Union. Though possibly not unique, yet we believe our case to be peculiar, inasmuch as that it is not merely one, two, or three of us, but the whole Poor-law medical staff in this Union, which is at the present moment engaged in a struggle with the Board of Guardians—a struggle for our rights as members of society, for every labourer is worthy of his hire—a struggle for our independence as gentlemen—a struggle for the character of the whole profession; for we hold, that accordingly as *you*, gentlemen, act in this contest, will our profession appear to the world, either as consisting of a number of noble, high-minded, and liberal men, determined to uphold the dignity, standing, and reputation of the class to which they belong, or as a body of individuals so utterly void of *esprit du corps*, so low in principle, so contemptible in feeling, so degraded in conduct, that there may be found amongst us those who are ready to sacrifice every principle of honour and high-mindedness, and to sell their brethren for a few pieces of silver.

We throw ourselves upon you, gentlemen, with the utmost confidence that the noble and disinterested profession of Medicine contains no such individuals; with a firm reliance on the truth and justice of our cause; with a sure hope that your utmost sympathy and support will be accorded to us; with the abiding conviction that the efforts we are now making, humble as they may be, isolated as they are, will still be approved and followed throughout the length and breadth of this land, with a prayer of faith that not *one* Judas may be found amongst us; and with an unflinching determination never to relax our exertions, and *coute qui coute* to fight the good fight of honour, justice, and independence, in which we are now engaged.

We remain, gentlemen,
Your faithful servants,
Charles Braddon,
W. T. White.

Upton-on-Severn,
July 6th, 1848.

A meeting of the medical officers of the Upton-on-Severn Union was held at Mr. Braddon's house, June 19th, 1848: present—Messrs. Trash, White, Prior, and Braddon, when the following resolutions were passed unanimously:—

1st. That in the opinion of this meeting, the present salaries paid by the Board of Guardians to their medical officers are quite inadequate to the duties performed.

2d. That the present system of giving a fixed salary for each district, without respect to area, population, or amount of sickness, is unfair in principle and unjust in practice. Unfair in principle, since the remuneration is definite, whilst the services rendered are indefinite. Unjust in practice, as, under this system, many orders for medical relief are given to parties not fairly entitled to them; and many orders are also given for attendance on cases of a most frivolous nature.

3d. That an application be made to the Board of Guardians at their next meeting, to abolish the present system of payment by fixed salaries, and to substitute, in lieu thereof, payment by the case, according to the following rates, such change in the mode of remuneration to come into effect on the 24th June inst.:—For every case of sickness occurring within a mile of the medical officer's residence, 5s. for every case; at a greater distance than one mile, 7s. 6d., with the usual extras, as allowed by the late general order of the Poor-Law Commissioners.

4th. That this amount of remuneration is extremely moderate, appears from the ascertained fact that the bare cost of drugs, leeches, instruments, &c. &c. in hospital and dispensary practice throughout this country, averages 4s. 3½d. per case of sickness.

5th. That the attention of the Board be directed to the circumstance that the Poor-Law Commissioners have already recommended an average sum of 6s. 6d. per case to be paid to the medical officers in Unions, and that this system has already been adopted in numerous Unions, and found most satisfactory.

6th. That the medical officers of this Union have felt so seriously the inconvenience and injustice of the present system, that, unless the foregoing plan be adopted, or their salaries be increased in a proportionate ratio, they will be reluctantly compelled to discontinue their services.

7th. That Mr. White, of Kempsey, and Mr. Braddon, of Upton-on-Severn, be appointed a deputation to submit these resolutions to the Board on Thursday next.

H. S. Trash.—W. T. White.—C. E. Prior. — Charles Braddon. — Joseph Meears.

On Thursday, June 22d, we attended at the Board-room, and submitted the foregoing resolutions. After some discussion it was determined that a committee, consisting of the Chairman, Vice-Chairman, and five elected Guardians, should meet at the Board-room on Friday, June 30th, to hear our case and report to the Board on the following Thursday. At the meeting of the committee we argued the case on the statements contained in the resolutions. We showed that the present salaries were utterly inadequate to cover the cost of house-keep and drugs, in some districts not even of drugs; that the amount of remuneration varied in the different districts from 4s. to 1s. 7½d. per case of sickness; that in these latter the medical officers not only received no recompense for their time, labour, skill, and responsibility, but were positive losers of money by their appointments. We impressed on the attention of the Committee, that in very many of the Unions large increases of salary had recently been made. We instanced the Droitwich Union in this county, in which the salary of one district had been increased from £32 to £40, of a second from £35 to £50, and then a general increase of 25 per cent. had been made on the whole Union. The clerk of the Union also read to the Committee a letter received from the clerk of the Bromyard Union, in which it was stated that the medical officers in that Union are now paid 8s. per case of sickness, each order being renewable at the expiration of every three months, so that it is possible, and frequently occurs, that the medical officers receive 32s. in one year for their attendance on the same patient. The same correspondent stated that this system worked well, and was found to be satisfactory to the Guardians, the medical officers, and the poor. We referred to the fact that whilst population and sickness had greatly increased since the formation of the Union, no increase had been made in the salaries of the medical officers, and yet the salaries of the clerk and the relieving officers had been recently augmented. We further stated that if the Board would not entertain the question of a change in the present system of payment, the medical officers would waive that point, and be content to continue their services if the Board would follow the example of the Droitwich Union, by first increasing the salaries of the officers of the Upton and Kempsey districts—the two worst paid—and then making an increase of 33⅓ per cent. throughout the Union. The Committee received us courteously, and promised to report to the Board on Thursday (this day). Accordingly we attended this morning to hear the decision of the Board, which was, that the Kempsey district be increased six pounds per annum, and that *all the other salaries* remain as heretofore. Under these circumstances we had no other alternative than to tender the resignations of all the medical offices of the Union with which we had been previously entrusted. Hitherto we have discharged the duties of our several offices with zeal and conscientiousness, and we defy any impeachment of the statement. In times of epidemics or general sickness, we have never hesitated to strain our personal exertions to the utmost, though met by no return of private gratitude or pecuniary compensation. Length of servitude gives us no standing nor title to increased recompense, and the profession has had sufficient experience that, in this country, Union labour leads not to private practice. That the profession may be fully aware of the extent of our duties, we beg to state that the Union contains a population of 16,724, and an area of about 53,500 acres; it is *twenty* miles in length, and the rate of remuneration per case is about *two shillings*. We apprehend that the Board will immediately advertise for fresh medical officers, as there appears no disposition amongst the elected Guardians in any way to do us justice. It now remains with medical men to show that they are prepared to accord to the profession, of which they are members, that countenance and support which it has a right to claim at their hands.

Chas. Braddon.
W. T. White.

Upton-on-Severn,
Thursday, July 6th, 1848.

Medical Intelligence.

THE PROGRESS OF THE ASIATIC CHOLERA IN RUSSIA.

By the last accounts received of the progress of the cholera in Moldavia, the visitation was excessively severe. At Jassy, from the 17th to the 28th, 1,799 persons had been attacked, of whom 810 had died, and 655 remained in the hospital, and 334 only had been cured. The attacks were steadily increasing in severity. At St. Petersburgh, from June 24 to July 3, there had been 5,063 cases, of which 2,596 had proved fatal, 198 had been cured, and 2,269 remained under treatment.

From an official bulletin on the progress of the cholera, dated July 1st, it appears that on the morning of the 29th June, there were

Persons labouring under cholera	1029
New cases on that day . . .	719
Recoveries	41
Deaths	356
Cases remaining on the 30th .	1451

M. De Chambaud was one of the first victims. Some of the cases were so rapidly fatal, that the patients died within four, and even *two hours* of the attack. On one day there were 595 fresh cases, and 356 deaths.

In one week at Moscow (from the 12th to the 19th June), there were 1724 new cases, and 728 deaths. On the 19th of June there were 327 new cases, and 153 deaths. The cholera is now ravaging with increased severity Kasan, Nijni-Novgorod, Kostoma, Jaroslav, Wologda, Smolensko, Toula, and Kalma. It has also just broken out at Pensa, Twer, Turhow, Olonetz, Watka, and Orfa.

Six large hospitals, exclusively intended for cholera patients, have been opened at St. Petersburgh.

The French journals report that a death from Asiatic cholera has recently taken place in the department of Aube. The patient died in twenty-four hours, and, on inspection, all the appearances indicative of an attack of Asiatic cholera were met with.

Letters dated St. Petersburgh of the 7th inst., state that the cholera still continued to make alarming progress in that city. On the 4th inst. there were 1064 new cases declared, 553 deaths, and 131 recoveries. On the following day there were 2983 cases in the hospitals. The number of persons labouring under the disease at Moscow on the 30th of June was 1974.

QUARANTINE AND CHOLERA.

The following quarantine regulations with reference to the Russian Baltic ports have been adopted at Lubeck:—

A decree issued by the Senate of Lubeck imposes a quarantine of five days (the days occupied by the voyage included) upon all vessels coming from ports in which the cholera has broken out, or from those which are suspected. It appears that these regulations have been principally formed with reference to the extensive trade and navigation between this port and Sweden, where extraordinarily prohibitory regulations exist. By limiting the quarantine to five days, the continuance of the communication by steam with St. Petersburgh will be allowed, and it is to be supposed that the necessary regulations have been adopted for the purpose of placing no obstacle in the way of transmission of letters and despatches. The above order decrees, as before mentioned, a "a quarantine of observation" of five days (the days occupied by the voyage included) for all vessels coming from those ports infected by the cholera, or those suspected of infection. The order contains the following regulation:—

"Should a vessel have any one affected with cholera on board during her voyage, and should such person be cured or already dead, it will be subjected to a quarantine of ten days, reckoned from the day of her arrival in Travemunde roads, and during this period the clothes and bedding of the crew must be thoroughly purified. Vessels which during their voyage have had communication with others having persons affected with cholera on board, or coming from ports which at the time of their departure were either infected with cholera or suspected, are subjected to a quarantine of five days, reckoned from the period of the last communication. In reference to vessels having persons affected with cholera on board at the time of their arrival, or on board which cholera should break out during their quarantine, the necessary precautions for security will be adopted by special measures. All vessels lying in quarantine are ordered to obey unconditionally the quarantine authorities, and to abstain from any communication with the land. For the present, since the cholera has already broken out in St. Petersburgh, all vessels coming from the Russian Baltic ports and the other ports on the Gulf of Finland, as well as from the ports on the south coast of Finland, as far as Hangoudd inclusive, are to be treated according to this order."

ON POOR LAW MEDICAL RELIEF. COMMUNICATED BY THE ASSISTANT SECRETARY OF THE CONVENTION OF POOR LAW MEDICAL OFFICERS.

There is no part of the administration of the Poor Law in which the public are more interested than in the medical attendance on the sick. The larger part of the expenditure of the rates is incurred in the maintenance of the sick and their families; and it is obvious that not only humanity but economy requires that the sick poor man should have good and speedy medical aid, to enable him to return to work, and thus remove himself as quickly as possible from dependence on the general fund. There is no doubt that the majority of guardians and rate-payers think they have, by the appointment of their medical officers, secured good and speedy medical aid to the sick poor; and it is hoped and believed that in the majority of the unions and districts throughout the kingdom this is the case: but this result arises much more from the conscientious and humane feeling of the parish doctor than from the excellence of the arrangements made by the boards of guardians. Such is the nature of medical practice, and there never is, and never can be, any regular market price for medical services: the peer and the cottager, if they have a broken leg, or an inflammation of the lungs, require the same attendance, the same medicines for their cure; yet they cannot by any possibility pay the same amount of remuneration. Thence it follows that different classes of society pay very different sums for the same services. Advantage has been taken of this want of a fixed scale, to arrange the salaries of parish doctors in an arbitrary way, without the slightest reference to the actual amount of labour, or to the expenses incurred: thus in the very sickly winter of 1847-8, there have been unions in which the whole payment to the doctor has not amounted to *threepence* per case: and in others permanently, the amount does not exceed *sixpence* per case, the medical officer having to provide at his own expense the necessary drugs and applications. The general average of payment in country districts in the south of England is about *two shillings and sixpence* per case. In this state one of two things must occur—either the poor are neglected, they are supplied with bad medicines, and the general amount of sickness and mortality is increased—or, what, it is hoped, is far more common, the doctor does justice to his pauper patient, and uses his best endeavours to get him well, but receives no remuneration for his exertions; and even in seasons of extraordinary sickness, which various circumstances have rendered more common than formerly, he must suffer a pecuniary loss: hence a great and natural dissatisfaction. Surely it cannot be right that either of these alternatives should be inevitable: it cannot be right that a great and rich country like England should consent to receive the gratuitous labours of a class of men, far from rich, in an unremitting and highly responsible employment: it cannot be right that three millions of our fellow subjects, and those the most helpless, should be entrusted to the unpaid labours of any class of men, before whom so great a temptation is set to render imperfect and inefficient assistance. In every other transaction of life it is considered necessary to pay well in order to be well served; and the medical profession may indeed be proud of the confidence that is reposed in its members, when they are expected to perform a harassing duty with the slightest expectation of pecuniary reward. It would however be well for the public to consider whether the general rule would not here also be applicable; and whether a more liberal payment would not insure, in the long run, a more efficient and complete attendance on the sick, and thereby a diminution of charges for sick maintenance.

At present the real amount of responsibility of the medical officer is by no means great. It is true he may often incur great blame from a very trifling cause, or perhaps from no just cause; but he may be guilty of great neglect without its being known to his employers. This arises from the circumstance that boards of guardians, however much they may desire to insure good medical attendance to their poor, being unacquainted with medical science, and therefore being really unable to judge whether the amount and quality of the attendance rendered by their medical officer is at all equal to the occasion. In all other public departments in which medical services are required, there is a system of inspection by competent medical authorities, which is absolutely necessary to a proper supervision, and which would introduce a real responsibility if it were applied to the Poor Law Medical System. This is so generally acknowledged, that the only objection that has been offered to it, is the expense. Undoubtedly if a system of inspection were to be properly carried out, it must be properly paid for; but this expense would speedily prove a saving, if, with other improvements, it *insured* to the labourer good and speedy attendance. Such a system of professional inspection is not only necessary to do justice to the poor, it is also necessary to insure justice to the medical officer; for the extent of his services, and the exactness with which he performs his duties, can only be appreciated by persons who are thoroughly acquainted with medical science and practice.

It has been objected that the medical profession have the remedy in their own hands; that they need not continue to hold their appointments for which they are so badly paid, but may give them up to others who will be ready to take them. It is true that in many cases, however low the so-called remuneration may be fixed, there will frequently be found men with the necessary testimonials, prepared to take the appointments; but these men will, in their turn, reiterate the same complaints, and with the same reason, for the grievance will still remain—*an undue amount of labour, attended with much anxiety and personal risk, will be demanded for an insufficient recompense:* the natural result follows—unless an abiding sense of duty and self-respect animates the medical officer, harshness and neglect take the place of kindness and zeal. Is not this a natural, nay, a necessary result? And ought not the public to consider well whether they are blameless in allowing a system to go on, which occasionally deprives the poor helpless man of health, or wounds him in his tenderest feelings by the neglect of those who are dear to him—which occasionally increases the expense of maintenance of the poor, by allowing disease to go on unchecked for want of remedies—and which always produces deep and heartfelt dissatisfaction to the medical man, who feels that of all public servants he is the hardest worked and the least remunerated. These evils are great and real: they are felt only by the doctor and the pauper; but their consequences affect society generally. The remedy is simple and practicable. Let the parish doctor be really paid, let him, after a proper calculation of his expenses, have a modest overplus to compensate him for his skill, his time, his mental anxiety—but let him also be really responsible to persons competent to understand his functions; let a strict supervision insure a punctual performance of his duty: in short, act as in any other business and relation of life—let a liberal course of action be encouraged on both sides—from the Poor Law authorities, a rate of payment which shall be no longer penurious and illusory—from the medical officer, a prompt and earnest attention to the combined interests of the pauper and rate-payer.

Committee Room of Poor-Law Medical
Convention, 4, Royal Exchange.

KING'S COLLEGE, LONDON.

APPOINTMENT OF MR. BOWMAN AS PROFESSOR OF PHYSIOLOGY.

WE are informed that, on the proposition of Dr. Todd, the medical professors of this College have recommended to the council, that Mr. Bowman should be appointed Professor of Physiology conjointly with Dr. Todd; and this appointment has been accordingly made, and Mr. Bowman will, in future, deliver half of the course of lectures on Physiology.

ELECTION OF PRESIDENT AND VICE-PRESIDENTS AT THE ROYAL COLLEGE OF SURGEONS.

AT a meeting of Council held at the College on the 13th inst., Edward Stanley, Esq. was elected President, and Joseph Henry Green, Esq. and James Moncrieff Arnott, Esq. were elected Vice-presidents of the College for the year ensuing.

The following gentlemen were admitted members of the College on the 14th inst.:—Messrs. A. Birney—R. Wilson—H. B. Robertson—E. Batt—T. English—T. Walker—J. F. Matthew—J. W. Crow—W. Scott—E. Ilott—J. Conry—J. F. Johnson—T. M. Jones.

Admitted on the 17th inst.:—Messrs. J. M. Todd—G. M. Young—T. S. Ludlow—G. W. Paternoster—T. S. H. Jackman—J. George—T. Roberts—W. C. Lake—G. Smith—J. Hinton—T. B. Rake—H. E. Turnour—H. Turner.

APOTHECARIES' HALL.

NAMES of Gentlemen who passed their examination in the Science and Practice of Medicine, and received certificates to practise, on Thursday, 13th July, 1848.—Henry Llewellyn Williams, Beverley—Robert Edwards Jones, Long Melford—Henry Merrill Williamson, Chapel-en-le Frith—John James Robert Robertson, Chelmsford—James Nuttall, Liverpool—Charles Wethered, Little Marlow.

OBITUARY.

ON the 14th inst., after five days' illness, of typhus fever (caught in the discharge of his professional duties), Joseph Howell, Esq., surgeon, Southwark-Bridge Road, aged 47, much and deservedly lamented.

Selections from Journals.

ON THE AUSCULTATORY SIGNS OF ANEURISM. BY DR. BELLINGHAM.

AN aneurismal sac in any part of the body contains constantly a certain amount of blood, proved by the collapse of the tumor in external aneurism when pressure is made upon the artery at the cardiac side. The first impulse, therefore, must be partly due to the shock communicated to the blood contained in the sac by the column propelled by the left ventricle; and as an aneurismal sac has but one orifice for the entrance and exit of blood, we must have a current of blood into and out of the sac at the same instant; that which enters expelling that which it previously contained. The sudden distension of the sac, which immediately succeeds the ventricular systole, of course gives rise to the impulse, and the friction of the blood against the parietes of the orifice of the sac during this act, generates sound; and this constitutes the normal first sound of aneurism. If the friction between the blood and the orifice of the sac is increased from any cause, a murmur will be generated, which will of course replace the normal first sound, because it is nothing more than this sound exaggerated. The murmur commonly heard in these cases is the bruit de soufflet, and whether it is present or absent, will depend upon several circumstances, such as the size of the orifice by which the sac of the artery communicates, the size of the sac itself, and the direction which it takes; and particularly the force with which the blood is transmitted by the left ventricle; the latter has a greater influence upon the production of a murmur than either of the former; for instance, if the walls of the left ventricle are thinned or much encumbered with fat, the systole will be too feeble to generate a murmur in the aneurism; hence, we see the reason why the first sound of aneurism of the arch of the aorta is sometimes replaced by a bruit de soufflet. and why in other cases a murmur is almost necessarily absent.—*Dublin Medical Press.*

BIRTHS & DEATHS IN THE METROPOLIS

During the week ending Saturday, July 15.

BIRTHS.		DEATHS.		*Av. of 5 Sum.*	
Males....	674	Males....	462	Males....	495
Females..	652	Females..	468	Females..	477
	1326		930		972

DEATHS IN DIFFERENT DISTRICTS.

WEST—Kensington; Chelsea; St. George, Hanover Square; Westminster; St. Martin in the Fields; St. James .. (Pop. 301,326)	144
NORTH—St. Marylebone; St. Pancras; Islington; Hackney ...... (Pop. 366,303)	168
CENTRAL—St. Giles and St. George; Strand; Holborn; Clerkenwell; St. Luke; East London; West London; the City of London ... .(Pop. 374,759)	168
EAST—Shoreditch; Bethnal Green; Whitechapel; St. George in the East; Stepney; Poplar ....(Pop. 393,247)	202
SOUTH—St. Saviour; St. Olave; Bermondsey; St. George, Southwark; Newington; Lambeth; Wandsworth and Clapham; Camberwell; Rotherhithe; Greenwich ....(Pop. 479,460)	248
Total	930

CAUSES OF DEATH.		Av. of 5 Sum.
ALL CAUSES	930	972
SPECIFIED CAUSES..............	928	968
1. *Zymotic*(or Epidemic, Endemic, Contagious) *Diseases* ..	319	257
Sporadic Diseases, viz.—		
2. Dropsy, Cancer, &c. of uncertain seat	44	45
3. Brain, Spinal Marrow, Nerves, and Senses	114	120
4. Lungs and other Organs of Respiration	58	80
5. Heart and Bloodvessels	23	28
6. Stomach, Liver, and other Organs of Digestion	54	79
7. Diseases of the Kidneys, &c...	7	8
8. Childbirth, Diseases of the Uterus, &c................	10	10
9. Rheumatism, Diseases of the Bones, Joints, &c.	7	7
10. Skin, Cellular Tissue, &c.......	1	1
11. Old Age	32	50
12. Violence, Privation, Cold, and Intemperance	15	8

The following is a selection of the numbers o Deaths from the most important special causes

Small-pox	34	Paralysis........	19
Measles	8	Convulsion......	40
Scarlatina	72	Bronchitis	24
Hooping-cough..	32	Pneumonia......	22
Diarrhœa	64	Phthisis	132
Cholera	9	Dis. of Lungs, &c.	4
Typhus	59	Teething	2
Dropsy..........	18	Dis. Stomach, &c.	6
Sudden deaths ..	8	Dis. of Liver, &c.	11
Hydrocephalus..	35	Childbirth	5
Apoplexy........	18	Dis. of Uterus, &c.	2

REMARKS.—The total number of deaths was 42 below the summer average. The mortality from scarlet fever has abated. The deaths from diarrhœa and cholera are about equal to the weekly summer average.

METEOROLOGICAL SUMMARY.

Mean Height of Barometer	30·13
" " Thermometer[a]	64·6
Self-registering do.[b] .... max. 108·8 min.	33·5
" in the Thames water — 68·4 —	64·

[a] From 12 observations daily. [b] Sun.

RAIN, in inches, 0·4: sum of the daily observations taken at 9 o'clock.

Meteorological.—The mean temperature of the week was nearly 4° above the monthly mean.

In the Registrar's table the mean weekly temperature is marked at 74·6! The daily figures show that this is obviously an error of 10°.

BOOKS RECEIVED DURING THE WEEK.

La Gazette Médicale, 15 Juillet.

L'Union Médicale, 13, 15, and 18 Juillet.

British Record of Obstetric Medicine, No. 14, July 15, 1848.

Casper's Wochenschrift, Nos. 25 and 26. 17 and 24 Juin.

Dental Physiology and Surgery, by John Tomes, Surgeon-Dentist to the Middlesex Hospital.

Portraits of Diseases of the Skin, by Erasmus Wilson, F.R.S. Fasciculus III.

NOTICES TO CORRESPONDENTS.

The communications of Mr. Turner and Dr. Renaud will be inserted in the following number.

Mr. H. B. Norman's case of Umbilical Hernia will be inserted.

Mr. E. Canton's second paper has been received, and will be inserted immediately after the publication of the first.

The remarks on Ancient Meteorology shall receive our early attention.

ERRATUM.—The advertisement in our number for July 7th, "On the Archetype and Homologies of the Vertebrate Skeleton," should have stated that the work is by PROFESSOR OWEN.

London Medical Gazette.

Lectures.

LECTURES ON THE DISEASES OF INFANCY AND CHILDHOOD,

Delivered at the Middlesex Hospital.

By Charles West, M.D.

Physician-Accoucheur to, and Lecturer on Midwifery at, the Middlesex Hospital, and Senior Physician to the Royal Infirmary for Children.

Lecture XXXV.

Intestinal worms—their varieties, symptoms, and treatment.

Diseases of the urinary organs—Inflammation of the kidneys — Albuminous nephritis — generally follows one of the eruptive fevers, oftenest scarlatina—its symptoms — condition of the urine — appearances after death—essential nature of the changes in the kidneys—Treatment.

Calculous disorders —frequent in early life—deposits in the urine in childhood almost always consist of the lithates—Other causes of dysuria besides gravel and calculus—Treatment of dysuria in early life.

Diabetes—True saccharine diabetes very rare in early life—Simple diuresis less uncommon — Symptoms of disordered health that attend both affections — Treatment.

Incontinence of urine — circumstances under which it occurs—its treatment.

Our study of the diseases of the digestive organs would be incomplete if we took no notice of those parasitic animals which frequently inhabit the alimentary canal in children. It will not, indeed, be necessary to say much respecting them; for we know that the older medical writers greatly overrated their frequency and importance, when they saw the proofs of their existence in almost every variety of gastric and intestinal disorder, and even attributed to their presence many forms of serious disturbance of the nervous system. Still, they are in many instances the occasion of considerable discomfort: they often aggravate, and sometimes even give rise to disorder of the digestive organs, while now and then the irritation excited by their presence being propagated to the spinal cord, produces convulsions or other formidable nervous symptoms.

Although *intestinal worms* are much more common in early life than in adult age, yet no species of them is peculiar to the child, but they belong to one or other of the five sorts ordinarily met with in the grown person.

The *ascaris vermicularis*, or small thread-worm, which lives principally in the rectum, is by far the most common of all these entozoa, and is very troublesome, from the local irritation which it excites. The long thread-worm, the *tricocephalus dispar*, appears much less frequently in the evacuations: it inhabits the upper end of the large intestines, and in some cases coexists with the presence of ascarides in the rectum. When it is present alone, I am not aware that it gives rise to any unpleasant symtom. The *ascaris lumbricoides* is of much less common occurrence than the small thread-worm, though observed more frequently than the tricocephalus: it dwells in the small intestines, and, sometimes entering the stomach, is rejected by vomiting. Occasionally only one of these worms is present, and though there are, therefore, several, yet it is not often that they exist in the child in very considerable numbers. The tape-worm, of which there are two kinds, the *tænia solium* and *tænia lata*, is much the rarest of these entozoa in early life, and is seldom, if ever, met with in children under seven years of age.

Various *symptoms* have been said to indicate the presence of worms in the intestines, but most of them are of small value; and nothing short of actually seeing the worms can be regarded as affording conclusive evidence of their existence. No one who is at all familiar with the disorders of early life will be disposed to attach much weight to symptoms such as the altered hue of the face, the appearance of a livid circle around the eyes, the loss of appetite, or its becoming irregular or capricious. Many causes besides the presence of worms give rise to a tumid state of the abdomen, to colicky pains, and to occasional sickness and vomiting; and itching of the nose or anus, though often present when the intestinal canal is infested with worms, yet is sometimes the occasion of much annoyance independently of their existence. An irregular or intermittent pulse, widely dilated pupils, occasional drowsiness, with uneasy rest at night, and starting during sleep, are evidences of disturbance of the nervous system, but do not specially indicate the presence of worms as the cause of such irritation.

In any case, however, where symptoms such as those above mentioned make their appearance, and, though fluctuating in severity, continue for weeks together, there exists, in the absence of any obvious cause of nervous irritation, reasonable ground for suspecting the presence of worms; and the evacuations should be examined, in order to

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ascertain whether or no that suspicion is well founded. Even though for a season none should be discovered, yet fortunately the *treatment* which the general symptoms would lead us to adopt will be in great measure such as, if worms exist, will prove most efficacious in producing their expulsion. The capricious appetite will induce us to regulate the diet with care; the disordered and generally constipated state of the bowels will lead to the employment of alteratives, and to the occasional administration of brisk cathartics; while the absence of febrile symptoms will probably seem to warrant the employment of some of the preparations of iron. These remedies will in many instances not have been continued long before the appearance of worms in the motions encourages us to persevere in the same treatment. The combination of ferruginous preparations with active purgatives is a plan especially effective in cases where the lumbricoid entozoa are present, and is likewise of much service in getting rid of the ascarides which inhabit the rectum, and in preventing their reproduction. The latter worms, however, need to be assailed in their habitation; and, from the circumstance of their living in the lower end of the rectum, this is a sufficiently easy task. Enemata of lime-water usually answer the purpose of destroying them; but, should they fail, the addition of some two drachms of the muriated tincture of iron to the clyster is tolerably sure to make it effective. In young children these ascarides sometimes not merely occasion much itching and distressing irritation about the anus, but even produce a troublesome diarrhœa, attended with considerable tenesmus. Under such circumstances, the lime-water injection should be administered daily for two or three days together; while, at the same time, small doses of the castor-oil mixture every six or eight hours will soothe the irritation of the bowels. In female children these ascarides sometimes creep up the vulva, and not merely cause much irritation there, but sometimes excite a leucorrhœal discharge, which ceases on the expulsion of the worms.

The alarming symptoms of cerebral disturbance which have sometimes been produced by worms in the intestinal canal have resulted more frequently from the presence of the round worm than of other varieties of these entozoa. This, however, is not always the case; and in the only instance that has come under my observation in which the occurrence of convulsions seemed clearly traceable to the presence of worms in the intestines, the small thread-worms were the cause of the symptoms. Apart from the knowledge which we have in many of these cases that the child had previously been afflicted with worms, there is nothing in the symptoms which could enable us at once to distinguish between convulsions from this cause and those which result from some other source of irritation of the nervous system. In most instances, however, the child has passed worms frequently before the cerebral symptoms made their appearance, and not improbably was under treatment for the destruction of these parasites at the time when the nervous symptoms supervened. Even though this be not the case, the constipated state of the bowels which is almost sure to have preceded the occurrence of the convulsions, indicates the employment of active purgatives—remedies which in most instances remove together these symptoms and their cause, although convulsions apparently induced by the presence of worms have sometimes had a fatal termination.

The tænia is, as was stated, much less common in childhood than after puberty; and in the few cases in which I have met with it during early life, I have been reluctant to try that heroic remedy, turpentine and castor oil, which is so serviceable in procuring the expulsion of tape-worm in the adult. I have been accustomed to employ the decoction of the bark of the pomegranate root in ʒj. doses three times a day to a child of seven years old, interrupting its administration twice in the week, in order to give a purgative of scammony and calomel. Under this plan, pursued for several weeks together, large quantities of the worm have been voided, and the children have appeared entirely freed from this very troublesome parasite. I have not yet made trial of the administration of a dose of the decoction or powder of the pomegranate bark every hour for four or five successive hours, as recommended by Mr. Breton,* who brought the remedy into notice in this country. I purpose, however, making a trial of this method on the next occasion that may offer, since the effects of the remedy, when thus administered, appear to be surer, as well as more speedy, than when it is given at longer intervals.

Closely connected with the disorders of the digestive organs are those *affections to which the urinary apparatus is liable.* Unfortunately, special difficulties attend their investigation in early life, and difficulties which it is least easy to overcome in dispensary practice: hence the information which it is in my power to give you with reference to these diseases is less complete than I could have desired.

Nephritis, or acute inflammation of the substance of the kidney, is exceedingly rare as an idiopathic affection in early life. MM. Rilliet and Barthez,* decline attempting to give any description of its symptoms, on account of the very few instances of it that have come under their observation, although they refer to some cases in which the congested, swollen, and indurated state of the kidneys discovered after death seemed to indicate that those organs had been the seat of acute inflammatory action. M. Rayer† relates an instance or two where the presence of purulent deposits in the kidneys of infants a few days old gave positive evidence of their inflammation; but no symptoms observed during the lifetime of these children had called attention to their urinary organs. He mentions it, moreover, as a disease of very unusual occurrence in early life, and adds, that though he has seen cystitis follow the application of a blister in early life, yet even in those cases there was no sign of the irritation having extended to the kidneys.

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* Medico-Chirurgical Transactions, vol. xi. p. 301.

Albuminous nephritis, or that form of inflammation of the kidney which is usually met with in connection with general dropsy, is rather less uncommon as a primary disease, though in by far the greater number of cases it is met with as a sequela of one of the eruptive fevers, generally of scarlatina. It is under these latter circumstances only that it has presented itself to my notice, and the description which I will endeavour to give you of it applies to the characters that it then assumes. It sometimes sets in with symptoms of considerable severity, but even then it has a great tendency to pass into a chronic state, while in by far the majority of cases its attack is gradual, and its advance is slow. The dropsical symptoms by which it is almost always attended generally show themselves within from a fortnight to three weeks from the appearance of the rash; the face, hands, and feet, being affected in succession, and fluid being likewise sometimes effused into the cavity of the abdomen. The dropsical symptoms are generally preceded for a day or two by the indications of constitutional disturbance. The child who had passed through the attack of fever probably with less than the average amount of suffering, and who for a few days had seemed rapidly advancing to convalescence, begins to droop, grows languid, feverish, and restless. The skin becomes dry and hot; the process of desquamation is arrested while still incomplete; the appetite is lost, though the thirst is often considerable; the bowels become constipated, and the urine diminished in quantity, although the desire for voiding it is very frequent. After these signs of interrupted convalescence have continued for two or three days, or even longer, the face becomes slightly swollen, a puffiness appearing about the eyelids in the morning, which probably disappears later in the day; so that in many instances the attention of the parents is not particularly directed to the child's condition until œdema has extended to the hands and feet. The degree of anasarca varies much in different cases, and likewise fluctuates at different periods in the same patient. Usually, though not invariably, there is a distinct relation between the degree of swelling and the severity of the general symptoms; and few cases terminate fatally in which there is not considerable serous effusion into the different cavities of the body. In very mild cases, the febrile disturbance is inconsiderable; the anasarca slight, and confined to the face; and after a few days of poorliness, the kidneys resume their proper functions, the anasarca disappears, and the child returns to health. In severe cases the symptoms persist for a longer time, and associated with them there are usually complaints of pain in the back, and evident tenderness in the lumbar region, while the swelling extends to the cellular tissue of most parts of the body; but unless some complication should exist, improvement generally becomes apparent in the course of a week or ten days, and recovery takes place slowly. In the worst cases, the swelling, after having undergone many causeless fluctuations, becomes extreme, as well as universal; the features are disfigured by the dropsy, the legs greatly swollen, and the abdominal parietes much infiltrated, while the skin remains dry and hot. The quantity of water voided under these circumstances is very small indeed, and the pain in the back is often very severe. The chief suffering, however, is referred to the chest; the respiration is laboured and accelerated, and the child is frequently unable to assume the recumbent posture, and is moreover distressed by a frequent, short, hacking cough. Under these circumstances, life is sometimes prolonged for several days, though in a state of extreme suffering, remedies proving unable either to increase the action of the kidneys, or to relieve the dropsy. Death is sometimes preceded by a sudden aggravation of the signs of disorder of the respiratory organs, which put on all the painful characteristics of œdema of the lungs. In other cases a comatose condition comes on, such as often precedes death from Bright's disease in the adult, although cerebral symptoms appear to be considerably less common in the child than in the grown person. Sometimes a temporary improvement takes place, the anasarca abates, and the kidneys resume their functions, but the patient dies not long afterwards from the effects of the pleurisy or pericarditis, which had come on almost unnoticed during the acute stage of the affection.

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* Op. cit. vol. i. chap. xvi.

† Traité des Maladies des Reins. 8vo. Paris, 1839, vol. i. p. 417.

These symptoms of constitutional disturbance, which you recognize as the characteristics of inflammatory dropsy, are associated with changes in the *composition of the urine*, as well as with a diminution in the quantity of the secretion. In the milder cases it is transparent when passed, though of a deeper colour than natural, and becomes turbid on cooling, when it deposits a more or less abundant precipitate. It has a strong acid reaction, somewhat exceeds the usual specific gravity of healthy urine, is at first rendered clear by the application of heat, but again becomes cloudy as the albumen which it contains is coagulated, and falls down in a flocculent precipitate. If the attack be more severe, the urine, which is very scanty, is of a brown or smoke colour, deep red, or coffee-coloured, and throws down a deposit chiefly of a reddish brown colour, which, however, does not entirely disappear when heated, while albumen is present in it in extreme abundance. An examination under the microscope of the deposit that takes place spontaneously in the urine in these cases, discovers not merely crystals of the lithate of ammonia, but blood globules, often very little altered, mucus corpuscles, and epithelium scales. These matters, however, disappear by degrees as the urine regains its natural appearance, even though it may still be shewn by chemical reagents not to be entirely free from albumen.

In cases where death takes place during the progress of this disease, if the dropsical symptoms had not been very severe, and the child had been carried off less by them than by some sudden cerebral symptoms or intercurrent serous inflammation, the kidneys appear to the naked eye no otherwise altered than in being generally darker and more congested than natural. In severer cases, however, in which death has resulted from the disease itself, and not from any casual complication, the capsule of the kidneys strips off more easily than natural, and their surface presents a pale colour and a mottled appearance. On a section being made, a marked contrast is observable between the pale, fawn-coloured, cortical structure of the organs, and their deeply injected tubular part, coupled with which their pelvis and infundibula generally display a greatly increased vascularity.

The use of the microscope has of late enabled us to advance a step further than we otherwise could have done towards understanding the pathology of this disease.* It has shewn us that the morbid process begins in the cortical parts of the inflamed kidney, the urinary tubules of which are stimulated to an increased production of their epithelial lining, or even to a pouring out of solid fibrinous matter into their cavities. The urine carries away with it some of these matters, and thus frees the tubules for a time; but as their contents are reproduced in quantities too large to be thus eliminated, some of the tubules become plugged and impervious, sometimes even so over-distended that they give way, and are completely destroyed. Nor is this all, but the capillaries of the organ necessarily bear a part in the mischief. At first, from over congestion, they become dilated and varicose, and afterwards, (in part probably from the formation of fibrinous clots within them, in part as the result of a process of adhesive inflammation), they become obstructed or even obliterated. Supposing this morbid process to have gone on to any considerable extent, the kidney must be left by it permanently and irreparably injured, while even in its slighter degree it must for a time seriously disturb the functions of the organ. In the earlier stages of the disease, the presence of albumen in the urine is in part due to the actual escape of blood from the over-loaded capillaries of the kidney, in part to the temporary suspension of its functions; while if at a later period, when the urine has lost its preternaturally deep colour, and has regained much of its healthy appearance, albumen should still exist in any quantity, there will be reason for apprehending that some abiding injury has been inflicted on the organ.

In the case of the dropsy that succeeds to scarlatina, although the convalescence is often very tedious, there fortunately does not appear to be much tendency to the production of any serious permanent injury to the kidney. The danger to the patient in the acute stage of the affection is, however, often very considerable, if the attack be severe, for the function of the kidney is almost entirely suspended, while at the same time the action of the skin, that other great emunctory of the system, is completely arrested. The blood circulates through the vessels laden with urea, as chemical reagents easily show; which the system unable to eliminate by its natural outlets, tries to get rid of by pouring it out abundantly in the serous effusions that take place into the different cavities of the body. These efforts of nature to relieve herself not only prove unsuccessful, but the effused fluid often seriously interferes with the due performance of their functions by the different viscera;

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* On this subject it is almost needless to refer to the papers by Dr. Johnson, Mr. Busk, and Mr. Toynbee, in vol. xxix. of the Med. Chir. Transactions, or to those by Dr. Johnson and Mr. Simon, in vol. xxx.; together with the note appended to the latter volume by the editors, respecting the labours of continental observers in this field of inquiry.

inflammation of the serous membrane of the chest or abdomen very frequently supervenes, and though this should not be the case, still the continuance of life is not compatible with the circulation through the body of blood loaded with urea.

When this affection occurs as a sequela of scarlatina, it may very often be traced to exposure to cold while the process of desquamation was going on, whereby the activity of the skin has been checked or altogether suppressed, or to the injudicious adoption of a tonic or stimulant plan of treatment at a very early period of the patient's convalescence. The opinion that it more frequently follows a mild than a severe attack of scarlatina, does not appear to have any better foundation than the circumstance that premature exposure to the air, and errors of diet, are exciting causes much more likely to occur after slight than after severe cases. Something, moreover, is unquestionably due to the epidemic constitution of the year, as Sydenham calls it, since the occurrence of the consecutive dropsy is common after the scarlet fever of one year, comparatively rare after the same disease in another year.

The *treatment* of this affection is on the whole that of inflammatory dropsy, from what cause soever it may arise. If it have set in with severity, the urine being very high coloured, extremely scanty, and loaded with albumen, the abstraction of blood is almost indispensable, and from four to six ounces may be taken from the arm of a child of five or six years old. It will, I believe, seldom, if ever, be necessary to repeat the general depletion, though if no improvement follow, and especially if there be pain or tenderness in the loins, cupping, or the application of leeches in that situation, should be resorted to. At the same time the child must be put on a low diet: he must be kept in bed, and must be placed in a hot bath every night, in order, if possible, to excite the skin to action. The bowels must be kept freely open; but I have not found as much advantage from the employment of cathartics as from the use of diaphoretic medicines. The tartar emetic is in these cases a very valuable remedy, and may be given in nauseating doses every three or four hours, combined with the Liquor Ammoniæ Acetatis. If, as sometimes happens, the child should complain of headache, or should appear heavy and drowsy, or if the bowels be constipated, Dover's powder is inadmissible, though otherwise it may be advantageously combined with the medicine, or be given in a rather larger dose at bedtime. When by the employment of these means, the skin has been excited to action, and the swelling, if not actually diminished, has at least ceased to increase, some of the milder diuretics may be combined with the mixture—as the acetate of potash, the extract of taraxacum, or the spirits of nitrous ether, while at the same time, the dose of the tartar emetic may be reduced; but the change of the urine to a darker colour, or the increase of albumen in it, should be regarded as indicating the propriety of discontinuing their use, and of returning to the previous strictly antiphlogistic treatment.

In cases where little or no fever is present, and where the urine, though still albuminous, is neither so scanty nor so high coloured as in the instances just referred to, while the œdema is comparatively slight, a less vigorous plan of treatment may be adopted. The child should still be kept on low diet, and confined at first to bed, and for a considerable time afterwards to its nursery while the warm bath should still be employed every night. Bleeding, however, is unnecessary; the tartar emetic need not be administered, but saline aperients, so given as to keep up a somewhat free action of the bowels for several days, will generally suffice to effect a cure. When, after the nearly complete disappearance of the œdema, and the return of the urine almost or altogether to a healthy state, the child still continues pale and languid, and feeble, the tincture of the sesquichloride of iron is the best tonic that can be administered, and under its use any traces of albumen that previously existed will be altogether removed. Much care is required in restoring the child to its usual diet, and it should not be allowed to go abroad without wearing flannel next its skin; but no case has come under my observation in which the continuance of a morbid state of the urine after apparent convalescence from this affection has warranted the apprehension that actual degeneration of the kidney had been produced.

Before leaving this subject, I must just observe, that a slight degree of anasarca occasionally follows an attack of scarlet fever in a weakly child, as a mere effect and indication of its feebleness; and also that an affection is now and then met with having all the characters of inflammatory dropsy, except that the urine is free from albumen. This was observed in the dropsy which followed a recent epidemic of scarlatina at Berlin,* and is likewise mentioned by Dr. Henry Kennedy as having been the case in some instances of the secondary dropsy which occurred during the Dublin epidemic of the disease.† With few exceptions, however, it has been found that the affection is slight when there is no albumen in the urine: its absence being probably due to the congestion of the kidney not having been so considerabe as to lead to the rupture of its capillaries, and the admixture of blood with the urine.

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* Described by Dr. Philip, in Casper's Wochenschr. August 29, 1840.

† In his excellent account of the epidemic of scarlatina in Dublin, from 1834 to 1842. 12mo. Dublin, 1843.

Although most diseases of the urinary organs are less common in children than in grown persons, yet *calculous disorders* are far more frequent in early life than in adult age. It appears, indeed, from some statistical data furnished by Dr. Prout, that out of 1256 patients received into the Bristol, Leeds, and Norwich hospitals, for the purpose of being operated on for stone, 500, or nearly 40 per cent., were under 10 years of age. If we bear in mind the intimate connection that subsists between the assimilative and the excretory functions, it will not surprise us that in early life, when the former, though so active, are so readily disturbed, the latter should likewise be often thrown into disorder.

Very slight, and very temporary causes, indeed, often suffice to occasion abundant deposits in the urine of children, and these deposits almost always consist either of the amorphous lithate of ammonia, or of the small reddish brown crystals of lithic acid. A trifling cold, or the slight feverishness and general irritation which sometimes attend upon dentition, not infrequently produce them, while they disappear as soon as the brief constitutional disturbance subsides. While it lasts, however, the condition of the child is often one of very considerable suffering, each attempt to make water being attended with much pain, the patient crying and drawing up its legs towards its abdomen; while frequently a few drops only of urine are voided at each time. Now and then the suppression of urine is complete for twelve, eighteen, or twenty-four hours; but this seldom happens except in children previously much out of health, and in whom, under these circumstances, the febrile symptoms and the constitutional disturbance are very severe, the bowels usually constipated, and the evacuations very unnatural in appearance. But besides cases of this acute kind, which occur almost exclusively in infants in whom the process of dentition is not yet complete, similar symptoms are often observed in older children, and though at first of a much less urgent character, they are yet of more serious import, since they frequently indicate the existence of a calculus in the bladder, instead of a merely temporary excess of lithic acid deposits in the urine.

In many instances the formation of lithic acid in the kidneys goes on without giving rise to any very obvious symptoms; and I have but rarely seen a child suffer from pain of that severe character which in the adult not infrequently accompanies the descent of a calculus from the kidney to the bladder. Sometimes, however, after frequent attacks resembling seizures of ordinary colic, a child begins to manifest the symptoms of stone in the bladder; and, under these circumstances, it is probable that the previous attacks of abdominal pain were due to the disordered functions of the kidneys, rather than to any primary affection of the intestinal canal. The occurrence of colic in children of three or four years old, indeed, should always direct our most sedulous attention to the state of the urine, which will very often be found to deviate widely from a healthy condition,—frequently to abound in lithic acid gravel.

The *symptoms* of stone in the bladder are much the same at all ages: the pain in voiding urine, and immediately afterwards, the frequent desire to pass water, the occasional abrupt stoppage of the stream of urine, and the irritation about the penis, owing to which the child keeps its hand almost constantly on its genitals, can hardly fail to awaken suspicion as to the nature of the case. Before subjecting the child, however, to the fright and pain which the introduction of a sound into its bladder is sure to occasion, it should first be ascertained that the patient's sufferings are not due to the prepuce being extremely long and its orifice very narrow. The existence of that malformation sometimes prevents the ready escape of the urine; while the edges of the foreskin becoming irritated and sore, any attempt to make water is rendered exceedingly painful, and the symptoms present a most deceptive resemblance to those of stone in the bladder. The presence of ascarides in the rectum likewise sometimes produces a degree of irritation about the bladder, which is by no means unlike that produced by calculus; and against this possible source of error it behoves us to be likewise on the watch.

The *treatment* of dysuria in early life, connected, as the affection almost always is, with an excess of lithic acid in the urine, is sufficiently simple. Those acute attacks which come on during infancy, and for the most part during the period of teething, and which are attended with much fever, with a constipated or otherwise disordered condition of the bowels, and with severe suffering, obviously call for antiphlogistic and soothing measures. The warm bath is often very serviceable in these cases in relieving the febrile symptoms; besides which, the occasional immersion of the child in hot water, as high as the hips, soothes the pain which is so apt to attend upon every attempt to empty the bladder. The bowels should be acted on freely by castor oil; and afterwards, no medicine has appeared to me to afford so much relief to pain, or so effectually to excite the kidneys to action, as the castor oil mixture which I have already mentioned to you several times, in combination with small doses of liquor potassæ, laudanum, and nitrous ether. Barley water, milk and water, and thin arrow root, should constitute the child's nourishment during the severity of its attack; and even when the symptoms are on the decline, much prudence must still be exercised in keeping the child to a very mild and unstimulating diet. It is generally wise to continue the use of alkalies for some time after the active symptoms have subsided; and small doses of liquor potassæ, either alone or in combination with the vinum ipecacuanhæ, may be given three or four times a day in a little milk. Once or twice I have seen a sudden suppression of urine, attended with great aggravation of the child's sufferings, follow after the existence of severe dysuria for two or three days; and have found this occurrence to be due to the mechanical obstruction of the urethra by a small calculus which had become impacted in its canal. The dysuria which is produced by the excessive length of the prepuce can be relieved only by the removal of a portion of the superfluous foreskin; while, when it is excited by ascarides, an enema of liquor calcis, with a dose or two of castor oil, will often produce an immediate cure of symptoms which had been very troublesome.

The treatment of calculus in the bladder hardly requires special notice here; but you would bear in mind that the calculi which form in childhood are just of that kind on which medical agents are best calculated to act; and that we have but little reason for dreading those changes in the precipitate thrown down from the urine which take place in later life. The deposits that take place, and the calculi that form in childhood, consist almost invariably of the lithates, and hence we may employ the alkaline carbonates without apprehension; and under their continued use I have seen very copious sediments completely and permanently disappear from the urine. Their action, however, is far too slow to be relied on in any case where unequivocal signs are present of the existence of a stone of considerable dimensions; while, fortunately, the anæsthetic agents which we now possess, by depriving the operation of lithotomy of the pain that once attended it, have robbed it of many of its terrors.

An unnaturally profuse flow of urine occurs at all ages as a temporary symptom in the course of many disorders. Its permanent increase, when associated with certain changes in the composition of the fluid, and the presence of saccharine matters among its elements, constitutes *diabetes*. This disease, although not common at any period of life, yet occurs in the adult sufficiently often for us to become familiar with its characters, and to dread it as one of the most formidable results of disorder of the assimilative processes. In the child, however, it would seem to be an exceedingly rare affection, for not only has no instance of it come under my notice at the Children's Infirmary, but Dr. Prout, out of his immense experience in diseases of the urinary organs, states that he has seen but one instance of it in a child of five years old, and only twelve in young persons between the age of eight and twenty years, out of a total of 700 cases of diabetes.* *Simple diuresis*, indeed, is less rare than true saccharine diabetes; and I have seen some instances in which, coupled with serious gastric and intestinal disturbance, there was so considerable an increase in the secretion of urine as to constitute a prominent symptom of disease. In these cases, however, considerable disorder of the digestive organs had for some time preceded the excessive flow of urine; and Dr. Prout states that in the earlier stages of infantile diuresis the urine is loaded with lithates, and diminished in quantity, though, as the disease advances, the quantity of urine becomes considerably increased; and it sometimes contains albumen, or in rarer cases yields signs of sugar. So far as my observation goes, indeed, the disturbance of the functions of the kidney is in these cases purely secondary and subsidiary to the gastric and intestinal disorder. The quantity of urine has either become speedily diminished under a due attention to diet and the regulation of the digestive organs, or the symptoms have merged by degrees in those of phthisis, which has gradually developed itself. My experience concerning these affections amounts, in short, to this—that whenever the processes of digestion and assimilation are seriously disturbed for any considerable time in early life, the functions of the kidney are very apt to become excessive in degree as well as disordered in kind. Further, such disorder is especially likely to occur just at that period when the simple but highly animalized food of the suckling is exchanged for the more varied diet of the infant after weaning. And, lastly, its existence may be suspected, whenever, coupled with more or less indications of gastro-intestinal disorder, there is a rapidly increasing emaciation, for which no adequate cause appears. It will, however, often happen, even when the amount of urine greatly exceeds the healthy average, that the parents of an infant take no notice of the circumstance, imagining it to be either an accidental and unimportant occurrence, or accounting for it as the natural result of the thirst, which induces the child to drink very abundantly. Hence, unless you make special inquiries with reference to this point, you may remain in ignorance of a very important symptom.

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* On Stomach and Renal Diseases, 5th ed. 8vo. London, 1848. P. 36, note.

When once you have become acquainted with the nature of the affection, its *treatment* is attended by no particular difficulty, and if undertaken sufficiently early, will often prove successful. The state of the bowels requires most careful attention: mild alteratives are frequently serviceable, but drastic purgatives are very unsuitable. The Hydr. c. Cretâ, in combination with Dover's powder, is often very useful in promoting a healthy condition of the evacuations; while the Dover's powder alone is also beneficial in calming the child's excessive irritability, as well as in diminishing the amount of urine secreted. Dr. Prout adds a caution, however, with reference to the use of opiates in these cases, as well as to the sudden withdrawal of fluids, since a suppression of urine may follow the incautious adoption of these measures, and that condition is almost sure to end in coma and death. Change of air to a dry and temperate situation, especially on the sea-coast, is of much importance, and the tepid or warm sea-water bath is often beneficial; while tonics of various kinds are generally of service. The different preparations of iron appear to have advantages over other medicines; and Dr. Venables, who was the first to call the attention of the profession to this affection, bestows high commendation on the phosphate of iron. Dr. Prout insists, moreover, on the importance of a suitable diet, into which albuminous matters should enter freely, in preference to, though not to the entire exclusion of, those which contain gelatine. Milk should form a chief element in the diet: while of farinaceous matters, those are to be preferred which have not undergone the fermentative process. These precautions too must be observed, not for a short period, but until the child has for some time regained its health, since a slight error is very likely to be followed by a serious relapse.

Incontinence of urine is a very distressing infirmity from which children sometimes suffer, and which in many instances is found very troublesome to cure. In most cases this inability to command the flow of urine exists only in the night-time, but sometimes it is present also by day; and both forms of the affection are met with in children of both sexes and of all ages, even up to the period of puberty. The nocturnal incontinence of urine is often associated with the presence of an excess of lithic acid in the secretion, and in such cases the first step towards remedying the infirmity consists in correcting the morbid state of the fluid. Now and then it appears to be dependent on the irritation produced by ascarides in the rectum, while in the majority of cases, so long as the affection is recent, a connection may be clearly traced between it and gastro-intestinal disorder. If not remedied, however, all the other functions of the body may return to a healthy state, while yet the incontinence of urine is perpetuated by a kind of habit, which it is found very difficult to break through.

The involuntary discharge of urine by day-time as well as at night is a still more troublesome affection. Sometimes there is an absolute want of control over the bladder, so that the urine is almost constantly dribbling away; while in other cases the desire to pass water is distinctly felt at certain short intervals, but the patient is unable to resist this desire even for a minute. This affection, too, is sometimes associated with a morbid condition of the urine; in other instances it seems to depend on a state of general weakness; while in some cases there is no apparent cause, either general or local, to which it is possible to ascribe it. Cases of this last kind are of all the most troublesome; they are sometimes met with in several members of the same family, especially in girls, though, according to my experience, the other more curable forms of incontinence are much more common in male children.

In the cure of nocturnal incontinence of urine much may often be gained by attention to certain precautionary measures; such as limiting the quantity of drink taken at the last meal, preventing the child from lying on his back when in bed (a position which seems greatly to favour the occurrence of the accident), and rousing him from bed to empty his bladder two or three times in the night. If the urine be loaded with lithates the diet must be most carefully regulated, and medicines must be given to restore the urine to a healthy state, and to ensure the due performance of the functions of the digestive organs. Tonics are often extremely useful afterwards, and there is none from which I have seen so much benefit as from the tincture of the sesquichloride of iron. At the same time, cold sponging to the back and loins is often decidedly serviceable; and if the case resist these milder measures, the frequent application of a blister to the sacrum seldom fails to do great good. In very obstinate cases the tincture of cantharides is of service; and once or twice I have employed with advantage large doses of the nitrate of potash, according to the recommendation of Dr. Young, of Chester; but as a general rule, the employment of these stimulant diuretics does not seem desirable.

LECTURES ON THE

INFLUENCE OF RESEARCHES IN ORGANIC CHEMISTRY ON THERAPEUTICS,

ESPECIALLY IN RELATION TO THE DEPURATION OF THE BLOOD.

Delivered at the Royal College of Physicians,

BY DR. GOLDING BIRD, A.M. F.R.S.
Fellow of the College.

LECTURE V.—May 5, 1848.

Medicine a history of reaction—Solidism and humoralism—Views of the older writers—Evils of abstract pathology—Zymotic theory of disease that of the English fathers of medicine—Crisis by urine—Evolution of poisons by the urine—Crisis present although not easily obvious—Mode of discovery—Excretion of solids—Estimation of—Variation of—Ratio of to the ingesta—Critical excretion by urine in ague—Illustrative cases.

MR. PRESIDENT, — An elegant modern political writer has defined the history of the constitution of a country to be a history of reactions—a series of principles alternately dominant and forgotten, each raising its head, constituting for a time the governing element, and becoming the object of general attention, until worn out, it expires, or, if existing, its sickly light is obscured by the brilliant blaze of its successor,—still in turn to disappear and die, and be succeeded by its predecessor, animating, perhaps, a new form. The dominance of one or other of these hypothetical views of state policy being determined less by their intrinsic excellence or practical utility, than by the brilliancy of genius, exuberance of talent, or Herculean industry which may for the time distinguish that man who may step forth as the apostle of such views,—the man rather than the principles he advocates being the real object of attention: thus reducing the popularity of particular views or theories to a sort of *hero worship*, of which their promulgator or temporary supporter is the object. Without conceding to the author of these views a claim to be regarded as an authority in our art, still the history of medicine affords a curious commentary on these ideas. Perhaps there are few more instructive lessons to be placed either before the student or practitioner, than a sketch of the history of the science we profess. I do not allude to the tale of its development from the pale lambent flame of its infancy, through the steady but faint light shining over it on the revival of letters, up to its full effulgence in these our days; but I allude to the history of the alternate credit and obloquy accorded to a few views propounded in connection with the theory or practice of the art of healing. Excluding the myriads of minor theories, the ingenious cobwebs of an hour's existence, a glance at some, of more comprehensive character, will explain my meaning. From the earliest era of our art, from the time that the rudest knowledge of zootomy was appreciated, there has always existed a strong feeling to refer the sources of disease to one of two general causes,—either to a lesion of the solid structures of our fabric, or to an unhealthy character of its fluids or humours. Thus at all times we have had champions of solidism, and advocates of humoralism; and it is no less curious than instructive to observe how each has, at different periods, appeared worn out and threadbare, and yet, after its adversary has in its turn become exhausted, it has, phœnix-like, risen in fresh vigour from its ashes. Each revival has, however, been invariably attended with improvement and progress; so that, although the subjects treated of remain the same, the theories of the humoralist of to-day are not those of Morton and Sydenham, nor the views of the modern solidist those of Sanctorius and Boerhaave, and hardly even those of Cullen. Thus great benefits have arisen from the alternate popularity of opposing theories, when advocated by really able men; for as in science in general, so in medicine in particular, the mischief done by an advocate of any particular theory, is in a ratio to his bigotry in its favour, multiplied by the imperfection of the light he may possess on the subject. No one can have read the writings not only of the ancients, but perhaps of the less known fathers of medicine in our country, as Sydenham, Morton, Willis, and others, without acknowledging the comprehensiveness of their views, the acuteness of their talents, and confessing that there were giants on the earth in those days. It has been probably too much the fashion to regard our ancestors as little better than a pack of noodles in almost all matters connected with applied science, and to consider the revival of their writings as the wasting of so much ink and paper: witness, for example, the lavish ridicule cast by such persons on that most excellent institution, the Sydenham Society, for reviving one of the most elaborate and excellent works of the ancient writers, the celebrated Paulus. But whilst I am anxious to impress upon all cultivators of medicine the propriety of carefully consulting the works of the older writers, to add their meed of information to their own, I would not for an instant enforce or support a blind obedience to their dogmata; for if they were giants, they moved in a light just sufficient to render darkness visible; and if we be pigmies in comparison, we exist when the light of science shines so brightly, that the merest tyro can recognise and distinguish objects which would have been invisible to the more erudite among our ancestors. Still I believe we may often, in the recorded experience of our predecessors, find a long-buried path of investigation, which we can easily trace out to advantage, but which they were compelled to abandon. If we avail ourselves of these aids, we become virtually seniors to our ancestors, having their recorded experience, plus our own acquired knowledge, and, standing on a high elevation, can see far enough to pilot our way to discoveries unheard of by them; and, as has been aptly said by an old writer, that, "Pygmæi gigantum humeris impositi, plus quam ipsi gigantes vident."

One great and characteristic feature of medical science in our era, is the devotion of its cultivators to pathology—may I venture to say, to perhaps too abstract a pathology. The earlier physicians, deprived of the light yielded by morbid anatomy, cultivated more a kind of therapeutical empiricism. I cannot help thinking that the latter is now too much lost sight of. It would too often seem sufficient for the physician to make an accurate diagnosis, to detail the pathological indications detected by the scalpel, should the death of the patient permit such an investigation; but I do think that the application of remedies to the cure of disease, and investigation into their mode of action, is too often regarded as of secondary importance. Although no one can be more convinced that a sound pathology can be the only trustworthy guide to treatment, still I would urge on every member of our profession the propriety of not voting therapeutics a bore, as is too often done, but I would beg of them to recollect, that it is as much their duty to know how to use their remedies to oppose disease, as to point out its existence. It is in this kind of excellence that the experienced practitioner exceeds his less erudite brethren, and, indeed, constitutes the great element of his success in life. If subjects of this kind, if a tendency to encourage inquiries into the *modus agendi* of medical agents, was a little more infused into the meetings of our medical societies, they would resemble a little less than they now do a series of meditations on death. One of the earliest treatises on pathology was aptly entitled *Sepulchretum*, or grave-yard; and something like a sarcasm appears lurking in the frontispiece of that celebrated work, when it exhibits good old Bonetus penning his huge folios, whilst a figure of death armed with a scythe looks in at the window, and with a patronising air seems to cheer the author in his undertaking.

I should not have offered these remarks, which may appear perchance sufficiently trite and discursive, had they not referred in some sense to that portion of my subject which now falls under our notice. In the writings of the older humoralists, we find disease referred for the most part to certain peccant humours the result of bad coction, which, entering the blood, excite (unless promptly got rid of) a sort of fermentation competent to the development of some form or other of morbid action. This theory, turned into language less quaint, and expressed in terms more familiar, is identical with the most modern views of that mass of diseases which are grouped together under the term zymotic, from their supposed dependence upon the existence of a *zumè* or a ferment in the blood. All the recent views emanating from Giessen, and which for a time absorbed everybody's attention, which explain diseased action on the principle announced in my second lecture, by referring it to the influence of molecular motion propagated from an infinitely small initial force, are of this character. Witness the following definition of the poison of fever:—"*Fomitem febriferum asseramus esse. Deleterium quid in spirituum systemate deletescens, quod fermenti ad instar eos adoiens atque æstro primùm exagitans, deinde humoribus secundo quasi momento, varias mutationes atque qualitates morbosas nobis sensibiles impertti.*" If it be inquired who is this apparent supporter of the views now so popular, and so generally admitted—who is this who talks of a morbid poison communicating its action like a ferment to the constituents of the system, setting up by a secondary impulse perceptible metamorphic changes in the blood, tissues, and secretions—I answer, that the author who thus announces, and in a laborious manner through a large work develops the now popular theory, with the single difference of using the Latin word *fermentum* for the Greek ζύμη, is at least free from the charge of plagiarism, seeing that he was consigned to the tomb in this modern Babylon some 150 years before the oldest present in this theatre saw the light. The almost necessary result of a belief in such an hypothesis, was a search after the emunctory by which the "*deleterium quid*" was got rid of from the system; and almost with universal accord the kidneys were regarded as the portals by which, if not the poison, at least its results were eliminated. Upon this belief depends much that has been written about crisis by the urine, and the appearances of this secretion in different phases of disease; and it is remarkable how minutely its physical properties are, in the absence of a knowledge of its chemistry, described by the older writers, although in this particular our ancestors went to some extent; for I find Dr. Willis, a court physician in the days of our second Charles, recommending a solution of alum as a test to detect in the urine morbid changes not perceptible to the eye.

To these critical features of the urine the attention of our forefathers was especially directed, more particularly in those diseases which certainly better bear out the theory of Zymosis than any others—I mean the whole class of fevers. I have no doubt that all who have perused the Hippocratic writings, and even those of a much more modern date, have been struck with the apparent obvious relation between the termination of some phases of disease, and a *crisis* by urine; and have, perhaps, like myself, wondered at their not having observed these things themselves. I think, however, that this admits of a ready explanation, for on referring to the history of fevers earlier than the last century and a half, no one can fail to notice the fact of the remarkable tendency to periodicity they exhibit; indeed, we might almost doubt whether a genuine continued fever was then known. The greater prevalence of malaria, arising from large extents of unreclaimed forest-land and marsh, will explain this, and I hope to produce evidence, ere we part to-day. that a genuine crisis is really indicated by the urine in malarious fevers.

The physiological indications fulfilled by the urine are familiar to all: we know that the kidneys pump off from the blood all excess of water, that they remove the metamorphosed products of effete tissues or mal-assimilated food, chiefly, as I pointed out when I had the honour of addressing you on Wednesday, in the form of urea, creatine, creatinine, uric acid, hippuric acid, uroxanthin, and a peculiar body abounding in sulphur; but we also know that the researches of Wöhler have shewn something more—viz., that whatever substances exist dissolved in the blood, not necessary or fit for the repair of the structure of our frame, invariably escape from the body by the kidneys. The injection of saline bodies, colouring matter, &c., readily proves the truth of Wöhler's statement. These bodies are, however, often excreted in a metamorphic state, and hence we must not expect to find them in the urine in the state they entered in the blood; thus benzoic acid, hydruret of salycyle, sulphuret of potassium, appear respectively as hippuric acid, salycylic acid, and sulphate of potass, in the urine; and the evidence I brought forward on such changes in my second lecture, is, I hope, not forgotten. On this account, if it be granted that in a given disease a man perfects in his own body a septic poison, as deadly, perhaps, as that of the puff-adder, and capable of producing as malignant effects if introduced into the blood of a healthy person,—if such poison really exists, and be ultimately got rid of by the kidneys, it is by no means necessary to find the urine as poisonous as the blood, or other secretions of the patient; as the septic matter, or the results of the metamorphosis of tissues under its influence, will in all probability be resolved into some of the now well-recognised elements of the urine. Although, indeed, even this may occur, as shewn in the celebrated debauches of the Kamtschatdales—in the amanita muscaria. When this fungus (rare among them) is found, a party partake of it with the gusto with which the Highlander swallows his whisky; and they become very drunk. Anxious, perhaps, to prolong their conviviality, no other amanita can be found—how are they to proceed? There is no difficulty, however, on this matter, for they have discovered that the intoxicating element escapes from the blood—which it had entered—by the kidneys; and thus a second day's debauch is economically kept up by quaffing their own urine, which is made to replace the more elegant but scarcely less injurious alcoholic stimulant of more favoured countries.

If I can prove that, concomitantly with an enormous increase in the excretions of the kidneys, sudden improvement occurs in a patient—which change for the better does not take place until this great change is observed—I think it will be conceded that I shall produce sufficient evidence to shew that the observations of our predecessors were correct, and that something like a critical excretion from the kidneys does take place, at least in the diseases which have been sufficiently carefully studied in this point of view.

But how are we to detect such a condition, if it really exists? This is a most important question; and since I have been able to answer it, I have been astonished with the curious coincidences, if they are nothing more, which have flown from it; and I only wonder that, even as a means of diagnosis as well as a therapeutic guide, the source of information I now hint at was not earlier indicated. No practitioner ever now neglects glancing at the appearance of the urine, and perhaps noticing its density, or its action on litimus paper, or even asking whether the patient passes much or little. But no observation of this kind will give the information I am alluding to. In a paper published in the MEDICAL GAZETTE two years ago, I pointed out, for the first time, the importance of determining the amount of *real urine* passed by a patient. By this term *real urine*, I understand the solid elements of the urine, as distinct from the water in which they are dissolved. Water, although an important, is not an essential element of the urine: it may be excreted by other emunctories, but not so the matters dissolved therein; these seem, except in mere traces, to be only able to escape from the body at the outlet afforded by the kidneys, and, indeed, from a structure of those glands distinct from that which pours out the water. In the paper alluded to, I pointed out the mode of determining this important question at the bed-side, and hinted at the results which would probably be obtained by it. From that moment I have never lost sight of the inquiry, and one among many of the results flowing from it I now shall bring before the notice of the College.

The first element in an inquiry of this kind will be, to obtain a tolerably accurate measure of the quantity of urine secreted in twenty-four hours. Simple as this appears, it in practice is attended with no small difficulty. Not only is it no easy matter to make our patients quite understand what we require, but the loss of urine generally voided during the action of the bowels will frequently prove no small obstacle to our learning the exact quantity secreted. By some little tact, the latter difficulty may be generally nearly overcome, and the former is met by giving the patient a definite and distinct direction as to the time when he is to begin to collect his urine. I am accustomed to tell the patient to pass water at noon, and, rejecting the portion then excreted, to collect all that he passes up to the same time next day, when he will take care to empty his bladder completely. In this way, twenty-four hours' secretion may be collected and measured. Unnecessary as these minute directions may appear, they are nevertheless important; as without them, the patient is almost sure to collect more urine than he ought, by preserving the portions passed at noon on the first day, in addition to those voided on the succeeding day.

Having thus measured the amount of urine secreted in a given time, we are yet far from having any satisfactory information as to the proportion of work done by the kidneys in a given time, as far as their depurating functions are concerned; the amount of fluid in the renal secretions being liable to serious variations, according to the quantity of fluids drank, the action of the skin, &c. Thus, a person may, under peculiar circumstances, void, in twenty-four hours, forty ounces of urine, and on the next day but twenty, and yet the amount of depurating duty performed by the kidneys be the same; for the former bulk of urine, if of a density of 1·015, will contain about as much solid matters as half that quantity if of a specific gravity of 1·030.

The characteristic function of the organs under consideration must undoubtedly be regarded as the excretion of highly nitrogenised matters derived either from the wear and tear of the animal tissues, or from imperfectly assimilated food. Therefore, to obtain a measure of the amount of integrity of this great depurating function, we must not only measure the urine, but calculate with tolerable accuracy the amount of solid matters really existing in it. This can, of course, be effected by the evaporation of a given quantity to as dry an extract as can be obtained. The practical difficulties attending this process are familiar to every one who has ever performed the task; and, moreover, the time required for its performance would preclude its being had recourse to sufficiently frequently to be of any real service. I have elsewhere noticed the objections to this mode, as well as the advantages presented by the more rapid and easy determination of the quantity of solids from the specific gravity of the urine.

Although ready to admit that this mode of calculating the quantity of solids is not susceptible of rigid accuracy, still, I maintain that the total error existing in a series of observations thus made will be far less than if actual evaporation of the urine was performed; and further, the large number of observations capable of being thus made by every one, amidst the fatigues of large practice, render it of infinitely greater value than a process which requires time and practical skill for its performance.

Specific Gravity.	Weight of 1 fluid oz.	Solids in f℥j.—grs.	Specific Gravity.	Weight of 1 fluid oz.	Solids in f℥j.—grs.
1010	441·8	10·283	1025	448·4	26·119
1011	442·3	11·336	1026	448·8	27·188
1012	442·7	12·377	1027	449·3	28·265
1013	443·1	13·421	1028	449·7	29·338
1014	443·6	14·470	1029	450·1	30·413
1015	444·	15·517	1030	450·6	31·496
1016	444·5	16·570	1031	451·0	32·575
1017	444·9	17·622	1032	451·5	33·663
1018	445·3	18·671	1033	451·9	35·746
1019	445·8	19·735	1034	452·3	35·831
1020	446·2	20·792	1035	452·8	36·925
1021	446·6	21·852	1036	453·2	38·014
1022	447·1	22·918	1037	453·6	39·104
1023	447·5	23·981	1038	454·1	40·206
1024	448·0	25·051	1039	454·5	41·300

A glance at this table presents us with a mode of recollecting the quantity of solids existing in urine of different specific gravities, when the table is not at hand for reference—a piece of short memory of no small service in practice. Thus, if the specific gravity of any specimen of urine be expressed in four figures, the two last will indicate the quantity of solids in a fluid-ounce of the urine, within an error of little more than a grain, when the density does not exceed 1·030; above that number the error is a little greater. To illustrate this, let us suppose we are called to a patient, the integrity of the depurating functions of whose kidneys we are anxious to learn. The quantity of the urine excreted in twenty-four hours amounts, we will suppose, to three pints or sixty ounces, and the density of the mixed specimens passed in the time alluded to is 1·020; now we merely have to multiply the number of ounces of urine by the two last figures of the specific gravity, to learn the quantity of solids excreted; or 60 + 20 = 1200 grains of solids. If the table were at hand, the calculation would be more rigid, for we should then multiply 60 by 20.79, instead of 20; the product, 1247 grains, shows that by the former mode an error of 47 grains has been committed; an amount not sufficient to interfere materially with drawing our inductions by the bedside, and of course capable of immediate correction by referring to the table at our leisure.

From a large number of observations, it appears that the average amount of work performed by the kidneys in the adult, may be regarded as effecting the secretion of from 600 to 700 grains of solids in twenty-four hours. Although certain peculiarities connected with muscular exercise, regimen, and diet, as well as certain idiosyncrasies of the patient, may influence this, yet if we regard 650 as the average expression of the number of grains of effete matter excreted in twenty-four hours by the kidneys, we shall not commit any very serious error. In calculations of this kind much latitude must be allowed, and it ought at least to be assumed that the kidneys may excrete fifty grains more or less than the assumed average, without exceeding or falling short of their proper duty.

I have in this as well as in the preceding lectures repeatedly used the term *depuration of the blood*, and have referred to it as an expression of a great fact. Some few years ago it would have required no little courage to have even used this term, for it would have been by many regarded as at least redolent of the sibyls of the wash-tub, among whom and their congeners there is always an aptness for referring all diseases to the "blood being in a bad state," or simply "bad blood," as all who have had much to do with dispensary practice can amply testify. Yet so much favour has a modified humoralism gained in the sight of the reflective physician, that not only will such expressions pass current, but hosts of affections are now regarded as strictly blood diseases, or conditions of *cacoæmia*—another illustration of scarcely any popular opinion or prejudice existing without some admixture of truth. Admitting in general terms the fact that the kidneys do depurate the blood of from 600 to 700 grains of solid matter in the twenty-four hours, I am anxious to remind my auditors that not only does this occur in accordance with fixed physiological laws, but that the proportion of solids excreted at particular parts of the day vary according to the amount of impure matters existing, and present in the blood. I will select but one among many illustrations which I have at hand for this purpose. In a person in good health, the bladder was completely emptied, and the urine afterwards secreted was collected the next day at 8 A.M., 12 and 5 P.M., and 11½ P.M., the total quantity voided being twenty-four ounces, but a very small quantity of fluid having been taken. The urine voided at 8 A.M. was evidently excreted from the blood independently of the influence of the blood, and may be regarded as a measure of the quantity required to be removed for the depuration of the blood of the effete matters entering it from the metamorphosis of tissue; that passed between 8 and 5½ contained the addition of imperfectly assimilated matter derived from breakfast; and that voided at 11½ contained the results of mal-assimilations of dinner. The table before you exhibits the result of the analyses of these specimens:—

When passed	8 A.M.	12 and 5 P.M.	11½ P.M.
Quantity	℥viij.	℥vj.	℥viij.
Sp. gr.	1.016	1·020	1·030
Uric acid	8 grains	2·4 grains	4·8 grains
Urea	50·9 ,,	41·16 ,,	88·2 ,,
Creatin, animal matter, and Volatile salts	62·46 ,,	36·78 ,,	123·72 ,,
Fixed salts	18·4 ,,	44·4 ,,	35·2 ,,

We thus find that the blood alone yielded 114·16 grains in 8½ hours.
,, ,, plus breakfast 80·34 ,, in 9 ,,
,, ,, dinner . . 216·72 ,, in 6½ ,,

In this example we have merely traced out the excretion of a definite amount of matter from the blood in health, and when the processes are as little as possible interfered with; this observation bearing, indeed, a close resemblance to the interesting experiments of Boussingault with ducks. We, however, will now pass to the consideration of another illustration, in which the quantity of effete matter excreted is considerably increased from the leaven of disease. An illustration also of another fact, and a very important one, to which I have already alluded—that a direct ratio exists in certain diseases between the excretion of a definite portion of effete matter from the blood and the amelioration of the patient's condition, such excretion being pro tanto *critical*. I shall now merely refer to the amount of "real urine" excreted, without reference to its composition.

Several cases of ague occurred in the hospital whilst I was pursuing this inquiry, and I propose alluding to some of these, for the purpose of illustrating the proposition now announced. I have chosen ague, in consequence of its origin having been in almost all ages traced to the existence of a poison, derived from marsh miasm, which is supposed to exert such an influence directly on the blood, and indirectly on every part of the organism bathed by that fluid, as to develop the well-known and characteristic systems of the disease in question. I will read the report of the case in the words of Dr. Robert Finch, one of our most zealous clinical clerks, then reporting for me.

"Owen S——, æt. 27, by occupation a bricklayer's labourer, admitted into Lazarus ward, May 21, 1845, under Dr. Golding Bird. His last residence was at Bankside: before that, for some time, at Gravesend. Previous health good; says he has lived temperately, and once suffered from syphilis.

Five months ago, at Gravesend, he first had a shivering fit, followed by the usual hot and sweating stages; he entered Guy's Hospital, under the care of Dr. Barlow, and left in three weeks well. On April 1st, the first attack appeared rather irregular in its stages, and to use his own expression, he did not "shake out." The paroxysm returned every alternate day, at about three o'clock in the afternoon. In the previous illness they appeared at noon.

On admission, aspect sallow and melancholic; complained of frequent giddiness, with a sensation of dulness and stupor. Abdomen flatulent, painless; no appetite; bowels confined; tongue clean and moist. No evidence of enlarged spleen or liver. Urine sp. gr. 1·028, depositing pink urates; contains a little biliary colouring matter; no albumen.—Hyd. c. Creta, Ipecacuanhæ, aa. gr. j.; Ext. Conii, gr. iij. t.d.s.

May 22.—Had a paroxysm yesterday at 3 o'clock, lasting about four hours; complains of "cold creeping" down his back. P.

23.—A paroxysm at 3 A.M., lasting not much more than two hours; bowels act freely; dejections pale. P.

24.—Feels better: in good spirits. P.

27.—No return of ague; aspect improved and less sallow; urine depositing urates, stained pink with purpurine; bowels act freely; skin rather hot and inactive. P.

29.—Improving in health and spirits; complains of shivering between the scapula. Urine pink from purpurine, but not letting fall a deposit.—Beeberinæ Sulphatis, gr. j., ter in die.

June 2.—Yesterday at noon had a severe paroxysm; shivered severely for three hours, followed by a long and severe hot and sweating stage; bowels confined for two days. P.—Pil. Cal. c. Hyd. iij. hâc nocte.

3.—Another paroxysm, but not so severe; urine alkaline.—Beeberinæ Sulphatis, gr. j.; Pil. Hyd., gr. j. t.d.s.

5.—Another attack this morning; urine acid; perspiration neutral. P.

7.—Quite well yesterday: this morning had a slight shivering at 10 A.M., but no hot and sweating stage; seems dull and stupid.—Beeberinæ Sulphatis, gr. ij. c. Hyd. c. Creta, gr. j. ter in die.

10.—No return of ague; appetite good. P.

13.—Progressing favourably; has a healthy tint of the whole surface of the body.

16.—Complains of a little giddiness, otherwise quite well.

17.—Convalescent. Made an out-patient, and remained free from ague as long as he was kept under notice.

The following is a tabular view of the examination of the urine of this patient, from the reports of Mr. Howard Johnson:—

Date.	Fluid ounces of urine in 24 hours.	Specific Gravity.	Action on Litmus.	Weight of solids present in grains.
May 23	12	1·028	acid, pink deposits	352
May 26	40	1·020	,,	828
May 28	35	1·020	acid, no deposit .	725
May 30	48	1·020	,,	1054
May 31	45	1·016	,,	743
June 2	35	1·014	alcaline	514
June 4	30	1·028	acid, pink deposits	879
June 6	27	1·034	,,	1036
June 7	35	1·013	acid, no deposit .	436
June 9	40	1·028	,,	1172
June 11	45	1·016	,,	742
June 13	40	1·022	,,	916
June 14	43	1·022	,,	984
June 16	37	1·027	,,	1044

The proportion of solids excreted in a given time, is calculated from the specific gravity, according to the table before alluded to, and therefore must be regarded as proximately, not absolutely correct.

In this case we had to treat a patient who had been long immersed in malaria, who had suffered from a previous attack of ague, and whose portal circulation was interfered with. Although no enlargement of liver or spleen could be detected by "palpation," still, the jaundiced urine and sallow miasmatic melancholic aspect sufficiently attested the torpid mode in which the liver was carrying on its functions. This case happened to be one of four admitted on the same day; it was chosen with the others for the purpose of testing the efficacy of Beeberine, then recently introduced by Dr. Maclagan, as an anti-periodic remedy. I was compelled, however, to associate it with doses of a mercurial alterative, for the purpose of unloading a probably congested state of the portal system—at all events of stimulating the function of the liver.

On looking to the table of the urine it must be admitted that there exists, to say the least, some curious coincidence between the free action of the kidneys, *quoad* the excretion of solids, and the improvement of the patient. The unusually large quantity of solid constituents removed by the kidneys of this patient is remarkable, and certainly very unfrequent.

Whether this was owing to any idiosyncrasy, I have no means of knowing.

On referring to the table, we find that on May 23rd, but 352 grains of solids were removed by the kidneys in 24 hours; the patient's disease not having then shewn any tendency to yield to our remedies, and bile existed in the urine; the quantity of solids increased to the 30th, on which day they reached the remarkable quantity of 1054 grains; on the 31st they suddenly fell to 743 grains; and in the succeeding 24 hours, the paroxysm, absent for several days, returned. On the following day, June 2nd, the urine was alkaline for the first time, and contained less than half the quantity of solids which existed four days previously, and he had a most severe attack on the next day; the kidneys became more active, and a less severe attack appeared on the 7th, when the solids again fell to a minimum; after this time they were again copiously excreted, and the ague finally vanished.

Mary H—, æt. 13 years, admitted May 23, 1845, into Martha ward, under Dr. Golding Bird. She was born at Sheerness, and had lately removed to Deptford: had scarcely suffered from any illness before the present one. Although well developed for her age she had never menstruated.

Three years ago she first suffered from ague of the quartan type, two clear days elapsing between the attacks: the paroxysm then commencing at noon, and appearing pretty regularly in spite of treatment for two years. She then left Sheerness, and came to Deptford, and shortly after attended Guy's Hospital, as an out-patient, under Dr. G. Bird. She was cupped over the spleen, and took quinine, so that in a month she appeared cured, and remained well for eight months. Lately she has become emaciated; a month ago ague again appeared; still quartan in type.

On admission, the skin was active, although cold; aspect not very sallow, but dull and stupid; pulse quick, although small and regular; no appetite; complains of thirst, and occasional bilious vomitings. There is considerable pain across the forehead, and from her mother's account she is light-headed at night. On examining the abdomen, the spleen can be felt decidedly enlarged. Urine stated to be high-coloured during the paroxysms; pale in the intermissions.

May 24.—Had a paroxysm to-day, lasting from noon to six in the evening.—Hyd. c. Creta, gr. ij.; P. Ipecac. gr. j. ter in die.

27.—Paroxysm came on at noon as usual, and continued seven hours.—Beeberinæ Sulphatis, gr. j. 4ta quaque horâ. Paroxysms absent.

29.—Seems pretty well, except that the skin is hot and dry. P.

31.—No ague yesterday; skin acting freely; bowels confined.—Rep. Beeberinæ Sulphatis.—Pil. Hydrarg. gr. iij; Ext. Coloc. Co. gr. vj. alt. nocte.

June 3.—No return of ague; too much heat of skin; the tongue has a white fur with elongated marginal papillæ (strawberry tongue.)—Augeatur dosin Beeberinæ ad gr. ij.

7.—Going on well; tongue the same; cheeks flushed, but skin perspires. P.

14.—Progressing favourably during the week; the tongue has cleaned. She seems very well. P.

17.—Not so well; some gastric disturbance, owing to some irregularity in food.—Zinci Sulphatis, ℈j. statim.

20.—Has been well since the emetic.

27.—Convalescent.

The following table presents a view of the patient's urine whilst under treatment:—

Date.	Fluid ounces in 24 hours.	Specific Gravity.	Action on Litmus.	Weight of solids in grains.
May 24 . .	35	1·008	acid . .	280
May 26 . .	28	1·013	"	375
May 28 . .	26	1·020	"	538
May 30 . .	25	1·024	"	625
May 31 . .	20	1·022	"	458
June 2. . .	30	1·017	"	528
June 6. . .	35	1·018	alkaline	651
June 7. . .	30	1·020	acid . .	621

A glance at this table shews that *pari passu* with the patient's improvement a gradual increase occurred in the solids excreted by the kidneys. No ague appeared after the blood had been depurated of 538 grains of effete matter, on the 28th of May. In this case, unlike the last, although the patient had long been exposed to the poison of marsh malaria, she did not suffer any relapse, and she remained well up to the present winter, when she again came under my care as an out-patient, with a very slight attack of ague.

I hope that I shall not be misunderstood in the line of argument I have adopted. Although believing most completely that ague is primarily excited by the influence of a peculiar septic poison derived from marsh malaria, I do not for a moment assert that this particular poison is excreted in the urine during the recovery of the patient. It is very probable that there are many intermediate links in the chain of causation between the incubation of the poison, and the development of the phenomena accompanying convalescence. The great effect of the malarious poison is in all probability essentially and primarily exerted upon the nervous system, especially on the organic or ganglionic structure, which preside so importantly over the function of secretion. Thus, all the secretions elaborated in the body become affected ; and, as is well known, a remarkable tendency to congestion is observed in the portal circulation, destined most particularly for the depuration of matters rich in carbon. There can be no doubt that the unhealthy secretions thus formed, become active agents in keeping up in the body the impression of the disease. One of the great elements of successful treatment must of necessity be the depuration of the blood, and thus by freeing the system from the depressing influence of a vitiated pabulum for its growth and nourishment, allowing the vital powers to throw off the influence of the poison which for a time protected them. The influence of smal doses of mercury in the treatment of ague is well known ; by a gentle but persistent appeal of this kind to the liver, the patient is immensely relieved, and his ultimate cure expedited. Cotemporaneously with this, the aspect generally becomes less sallow, a sufficient indication of the liver becoming active in depurating the blood of carbon. Then, under the influence of that very curious class of remedies, the anti-periodic tonics, the paroxysms become less, or quite vanish, whilst ample evidence is afforded of the kidneys performing the important duty of filtering from the blood highly nitrogenised substances, by the rapidly increasing amount of solids existing in the urine.

CLINICAL OBSERVATIONS ON

HIP DISEASE.

[CONTINUED.]

By B. Phillips, Esq. F.R.S.

Surgeon to the Westminster Hospital.

Our experience of the results of hip disease during the last two years is certainly not very cheering, and I am afraid it is not very different from the experience of others. It is true that in that period only one patient has died from the disease within these walls, but I am afraid that others have been taken home to die. Where that result has not occurred, sometimes serious incurable infirmities may remain, such as dislocation or anchylosis ; in a few cases the disease has been happily subdued, and the patient has gradually recovered. Of course the result will depend upon many circumstances. Some people think that the chances of mischief are greater the earlier in life the disease is developed. I cannot say that I am satisfied of the correctness of that opinion. Much more will depend upon the constitution with which we have to deal. Where the child is vigorous, we may use energetic means and subdue the disease ; where he is feeble, our chance of success is lessened. Again, we have much more chance of arresting the evil when the cause is accidental than where it is constitutional. It is hardly necessary to say, that where the evil is of long standing, and the disorganisation considerable, that we can hardly hope for complete resolution.

As hip disease is often presented in feeble children, and as in many instances the appearances of a scrofulous constitution are manifested, it has been very much the practice to subject them to specific plans of treatment; but as I know no specific for scrofula, I have been content to treat the case according to the symptoms, always bearing in mind that a scrofulous cachexia is a proof of a feeble general condition; and that such means as tend most effectually to improve nutrition are best adapted for the relief of this state. Of course the means to be used must vary with the case. But there is a medicine upon which many persons place much reliance in the treatment of scrofulous diseases affecting joints—I mean cod-liver oil. I have made considerable use of it, and certainly in most cases without any obvious benefit; in many cases it proved injurious: it has deranged the digestive system, and induced diarrhœa. In a few cases it has seemed to do much good; and whenever its effects are to improve nutrition—and this is shewn by the patient gaining flesh—then very frequently its effects upon the local disease have been very favourable.

The conviction that these affections will very frequently go wrong, and that only the most energetic means will succeed in averting them, is as old as the time of Hippocrates (Aphor. 60); and the great remedy in use by the Greeks, the Romans, and the Arabs, was the actual cautery. In Europe, it was not until the last century that any combined plan of treatment was properly followed out. Petit says of these cases,—rest is the first remedy, associated with repeated bleedings, appropriated to the strength of the patient and the necessity of the case, and topical stimulating applications. Later surgeons have reduced the treatment into a more systematic plan; thus, it is said at the first period, rest, antiphlogistics, and counter-irritants, with appropriate general treatment, are to be employed; at the second period, opening abscesses, if they exist, and favouring the formation of new articulations if there be displacement, and anchylosis if there be not, are the means to be employed.

A great impression was made many years ago by the practice of Rust; although few surgeons in this country have had the courage to use the actual cautery so liberally as it was employed by that surgeon. The value of the remedy has, however, been so generally admitted, and his success in the treatment of diseased joints was said to be so great, that it is proper to set forth his plans in this place. He divided the disease into four stages: inflammation of the medullary membrane, ulceration, dislocation, after consequences; but he admitted only one primitive form—inflammation of the internal periosteum. In the first stage, he recommended that as soon as leeches and baths had quieted the pains, mercurial frictions should be employed. In the second stage—that of elongation—he used the actual cautery. In the third and fourth periods—that of suppuration—he believed that a radical cure was not possible. His cauteries were of various forms: some were radiating, having three or five radii; these radii were separated from each other to the extent o nine lines or an inch. For an adult, the centre radius was often four, and sometimes five or six inches long: it was applied along the direction of the sciatic nerve; the second was laid along the fossa, behind the great trochanter; the third was placed over the great trochanter itself; and the time of contact was dependent upon the depth of ulceration required. When abscesses existed around the joint, if they were large, he opened them, and freely. He had no fear from the introduction of air: he maintained that it was not the action of the air, but the state of the part, that wrought changes in the contained fluid. However, to get rid as far as he could of that objection, he used to irritate the skin of the part in which the opening was to be made by passing over it the red-hot iron; and as soon as the tension it occasioned was abated, he split the eschar, so as to make an opening into the cavity, and cause the escape of pus. He considered this the best means to procure the adhesion of the sides, but sometimes, after similar preparation, the escape was promoted by seton. Other surgeons prefer moxas to the actual cautery, as being less painful and frightful.

Sir B. Brodie differed from Rust in this, that he distinguished two principal forms of the disease—namely, synovial inflammation, and ulceration of cartilages. For the modification of general health, he recommends an appropriate treatment; for the local treatment he advises antiphlogistic cataplasms, &c. until acute symptoms abate; when they are abated, he advocates counter-irritation by blisters; at a still later period, frictions with stimulants, &c. In the second form of the disease he insists on perfect repose, and the horizontal position, to favour anchylosis. Where issues are made, he advises that they should be placed behind the trochanter. In some instances much relief has been obtained by placing them over the tensor vaginæ femoris. Instead of keeping them open with peas, he advises that they should be brushed over with bluestone twice or three times a week. Where the pain at the joint is very acute, he advises the use of a seton in the groin, over the crural nerve. When abscesses are to be opened, he prefers the lancet, and he keeps the leg wrapped up in warm flannels.

Roux, on the contrary, objects to all excitant or resolvent applications, because, as he says, they have no beneficial effect. He thinks blisters are only fit for young children. Some persons still adhere to mercurials, externally and internally; some to barium.

Now let us make a few remarks on these things. No doubt, if the state of the constitution can be improved by treatment, it should be done; but this is often difficult. I believe that a syphilitic taint has not often much to do with it, although this opinion is entertained by some surgeons. A scrofulous taint is unhappily often associated with it; but every surgeon knows how difficult it is to modify it: still, it should be attempted. Dzondi believed that a rheumatic diathesis was often mixed up with it. He placed his patients in hot baths, where the temperature was raised as far as it could be borne, and this was done every, or every other, day; at the same time administering sudorifics, using frictions, and wrapping the patients in blankets. There are still two plans which have been warmly advocated: mercury, so as to affect the system, by O'Beirne; and baryta, by Pirondi and Lisfranc. I have seen good effects from the first, but I cannot say as much for the second.

It is, however, from local treatment that we have most to hope—namely, rest, position, antiphlogistics, and counter-irritants. On the utility of the first agent I think few persons have any doubts: it is, in my judgment, the most important element of all, no matter what may be the age of the patient or the stage of the disease, and it must be continued long after all feeling of discomfort has ceased. At the same time I am bound to say that, easy as it would seem to be, to accomplish this object, there is often considerable difficulty in satisfactorily carrying it out. There are many modes of effecting it: it may be done effectually by means of bullock's hide, or gutta percha moulded on the sides of the pelvis and the thigh. Occasionally I have known the object to be accomplished, though less perfectly, by applying bandages around the feet, the legs, and the thighs. In one case it may be best accomplished by means of one plan; in another, by a different one. The long splint is employed by some surgeons, but it is often found too irksome to bear. I have known cases in which the double-inclined plane has answered well; but if there be any chance of anchylosis, of course that position would not do. In any case, if perfect rest be not procured, our object will not be attained; but if perfect rest to the joint be so important, it must be necessary to ascertain in what position the limb is best placed. It must be borne in mind that in these cases flexion is the position which the limb tends to take, and that this flexion disposes the head of the femur to escape from the acetabulum; and there can be no question that, if anchylosis is to take place, the flexed position would make the limb useless. There is no doubt, either, that rotation inwards or outwards is objectionable. If the direction be inwards, the capsule is distended, and the pressure tends to produce softening or ulceration. When the thigh, flexed on the pelvis, is adducted and rotated outwards, the ligaments within and without the joint are distended; but this position is certainly much more rarely seen than that of adduction and rotation inwards. It does not follow, however, that because the limb is extended there should be no tendency to displacement; for it would happen if it were at the same time adducted and rotated outwards, or adducted and rotated inwards; but if the limb be extended and directed parallel to the axis of the trunk, the point of the foot being directed straight forwards, there is then no distension of the joint—no tendency to spontaneous luxation. Still, I think any forced extension is bad, because it produces a painful dragging on the anterior part of the capsule. Moderate extension, with slight flexion of the knee, is, I think, best, and best provides for a useful limb. Great care should be taken, in the application of any apparatus, that no unnecessary pressure is made on the trochanter; for the evil of pressing the head of the femur against the floor of the acetabulum is in its consequences only second to uncontrolled motion. Constant but moderate extension, combined with slight traction, acts often most successfully in controlling pain at the joint. When we have secured perfect repose with the extended position and slight traction, more still remains to be done; but until those objects are properly accomplished, we cannot hope for any great amount of good from other things.

The differences of opinion which are entertained even upon what may appear to be the most simple questions of treatment, are a sufficient proof how much remains to be done. Lugol says, that, having observed the good that resulted in scrofulous ophthalmia from exposing the eye to light, he determined to try the effect of walking in cases of diseases of the joints of the inferior extremities. And that is the rule he commonly applies to all such cases, and, as he believes, with great success. He has for many years employed the plan in conjunction with iodurets in cases of white swelling of the lower limbs, and had in 1844 employed it in at least 300 cases. Naturally enough, he says, how is it that this practice has not become general? The answer is obvious enough — because, as an ordinary plan, it is repugnant to common sense, and because, if it be applicable to any cases, they are not at present discriminated.

Among the means to which recourse must be had in many of these cases, stands prominently the use of antiphlogistics, and no doubt, at an early period of the disease, and combined with strict rest, they may do much to cut it short; but they must be guardedly proportioned to the patient's conction,—they must not be so used as to lessen much the general powers, or reparation becomes difficult; still their good effects are confined simply to the early stage of the disease: they may be found useful whenever any acute symptoms are developed at the part, no matter at what period that may be. These means include blood-letting, fomentations, cataplasms, &c., and mercurial or other frictions, which should not, however, be used until the most acute symptoms are abated. Some surgeons are strongly impressed with the value of mercurial frictions, conjoined with fomentations, and carried far enough to increase the activity of the secretion.

The use of counter-irritants is a most important question, on which much diversity of opinion exists. The practice is as old as the period of Hippocrates. The red-hot iron was the remedy of the Arabs, as well as that of Rust. There are surgeons who use it early, and then it often fails; but when the disease has assumed more of a subacute or chronic form, its effects are often very remarkable: but it is a remedy which produces much alarm in patients, and many practitioners shrink from its employment, substituting for it a not less painful, though less alarming agent, the moxa, by which a deep eschar is made; and the resulting ulcer should be healed as soon as possible. When it is healed, the time is come for making another, and it may be two or three more. Other surgeons use caustic potash or caustic paste. Those things certainly have one recommendation over the actual cautery—they are neither so painful nor so alarming to the patient as the red-hot iron or the moxa. Some surgeons keep open the ulcer, so made, with peas or beads: this is often difficult, and probably the issue is equally efficacious, and less troublesome, when brushed over with caustic potash or blue stone. Other surgeons use setons behind the trochanter, or over the tensor vaginæ femoris, or over the crural nerve; and there is no doubt that they often produce a considerable abatement of pain; but I doubt whether they exercise so powerful an influence over the disease, as some other agents. I am very much inclined to think that in many instances there is no counter-irritant more effectual in controlling hip disease than blisters, repeated as often as a former one is dried up, so as to keep up irritation as long as may be desired. In my experience, certainly nothing has had more effect than these have in lessening pain; but for this purpose one or two slight blisters are rarely sufficient,—they must be renewed until the pain is dissipated. In a few instances, however, I have found that they rather aggravated than lessened pain. In such cases they should be discontinued. Even when they have apparently mastered the pain, much caution must be observed in permitting any motion at the part. Indeed, it is always safer that the patient should continue in the horizontal position for several weeks after the pain has subsided, than to risk mischief by early motion. Some persons prefer using an ointment of tartar emetic or croton oil, or other irritant, capable of producing pustular eruptions on the skin; but they are often very inconvenient, and I have seen no cause to prefer them to simpler means; and certainly I look in such cases with more hopefulness to blisters, than to any other species of counter-irritant. I know that many experienced surgeons look with much favour upon issues; but I confess my own experience leads me, as a general rule, to employ blisters with more confidence than issues. Still, however energetic and well directed may be the means we have employed for the cure of the disease in that earlier stage of its existence, it is certain that we often fail, and then we have to do with the more formidable train of symptoms which characterises the next stage in the progress of the disease.

Among the serious complications which are observed to follow upon this stage of the disease, are collections of purulent fluid; in many instances they are not in immediate contact either with the bones or the joints, but in others they are in direct connection with them. The first seem to be owing to the extension of inflammatory action to the soft parts at a certain distance; the second, to the irritation set up at the part itself. Some surgeons have rested very important principles of the treatment on the situation of such collections—that is to say, whether they be in immediate connection with the joint or not; and in that view it is very necessary to determine the exact nature of the collection. They believe, where the collection is external to the joint, that early and free openings should be made,—that where they are connected with the joint, no such interference is justifiable. In the difficulty which is thus presented, it becomes essential, at last, to treat all these cases as if they were directly connected with the joint or the bone. Under ordinary circumstances the abscess proceeds and makes a way for itself to the surface;—I say ordinarily, because I had a case, as you may recollect, not long ago, where the existence of a collection of purulent matter was established by the introduction of a grooved needle; but it was ultimately dissipated under blisters.

The opening of these collections, even when it happens spontaneously, is not necessarily mortal, but it is often accompanied by great constitutional distress: it is, therefore, of great importance that we should be satisfied whether the risk of mischief be lessened when the opening is artificially made, and what course in this respect it is best to follow. I think most surgeons are convinced that it is better to interfere by incision or puncture, rather than to let the matter burrow, and perhaps destroy a large portion of integuments, which it is likely to do when left to itself. Whether, however, the opening should be made early or late, is a point which yields in practical importance to none we have considered. Some say, open late, because there is so much to fear from constitutional irritation. And if you open at all, how shall you do it? By large incision or small? by trochar? by caustics? by seton? It cannot be so indifferent that either plan may be properly followed. Shall it be done by large incision, so that all the fluid may be evacuated at once, and the parts be immediately brought together, so as to exclude as far as may be the entrance of air? Shall it be by small and successive punctures, by which air may be most effectually excluded, and the cavity more gradually relieved? Some persons advocate one course, some another. Various modes have been followed for carrying out different ideas: thus, M. A Petit used a red-hot needle, for the purpose of preventing the entrance of air, and extracted the fluid with cupping glasses; others have used a very thin knife glided for a short distance under the skin; others have used a very small trochar, with or without an elastic gum bottle adapted to the canula; and I regard this plan as in all respects the best: but where the fluid contains a large portion of flaky matter, that of course is not evacuated if the opening be very small: this fact, however, I do not regard as of any importance, provided the liquid portion comes away.

When the collection opens spontaneously, a good deal of inflammatory action is sometimes set up in the membrane of the cavity, and the pus undergoes a great change; in those instances we must endeavour to lessen the inflammation, and we must afford every facility for the escape of the fluid. Some persons fill the cavity with warm water, as a means of lessening irritation, which it is believed is brought about by the action of air upon the contained fluid; but, in many cases, nothing seems to avert the result of the irritation then set up.

In many of these cases, the head of the bone having left its proper cavity, increases by its presence the suppurative action; and then it has become a question whether the head of the bone should be excised. Although in the latter stages of hip disease displacements are by no means rare, there is no doubt that, by paying much attention to position, we may lessen the chance of dislocation; but in spite of all our care it will often happen. When the immediate consequences of such displacements have completely passed away, and the irritation is inconsiderable, it has been recommended that attempts should be made to replace the bone in its proper cavity; and the plan has been not uncommonly followed, and sometimes it is said with success; but in many cases the acetabulum is almost effaced, and reduction must be impracticable. When employed, extension is very gradually made until the head of the bone arrives over the acetabulum; and then, by another series of apparatus, it is gradually forced into the cavity. It must be manifest, that only a few cases can be usefully treated in that way. If the head of the femur or the acetabulum have been largely injured, no good can reasonably be expected from this plan. In this state of things, the moveable head of the bone may excite much irritation. Extensive abscesses may follow, and be succeeded by discharges so profuse, that the patient's health completely breaks down; and the question arises, may the patient's condition be improved by excision of the head of the femur. This is a very serious question, but it has often been decided in the affirmative. It is serious, because the question is so surrounded with difficulty; either the patient retains some vigour, and anchylosis is by no means impossible, or he is so feeble, that the operation may be expected to accelerate his death. It has, however, been performed many times. Altogether I find that since 1743, when Schlichting's operation was done, there are not less than 17 cases in which the operation has been performed for hip disease: and of these, ten have more or less completely succeeded; life being preserved, and the limb being worth something; but at least three of those cases are still on their trial.

Whether the amount of success now mentioned be a sufficient warrant to have recourse to this operation, is the matter in question. Certainly the naked result—that out of seventeen cases ten have survived the operation—would not operate as a bar to its performance, for it is as large an amount of success as attends the operation of amputation of the thigh. Therefore, if it were assumed, first, that the operation was not performed until it was evident that the patient would probably sink under the disease; and next, that it is our first business to save life, no matter whether with capability of usefulness or not;—then it is clear that we should properly declare in favour of the operation: and probably that is at last the conclusion to which we must come. But if we look at the question in another light, and say that we must go a step further, and ascertain whether we have done more than extend life, then we are met by more serious difficulties. In many of the cases which have survived the operation, the limb saved has been useless; for a long time discharges have continued, in consequence, usually, of a diseased acetabulum; and life has been long threatened. Still, the fact remains that our mission is to save life, without speculating whether, when saved, it is likely to be usefully employed. It is certain that in these cases, if the caries were limited to the head of the femur, a speedy cure might be more reasonably expected than is usually the case; but unless there be already displacement of the head of the bone before operation, we cannot determine with any certainty whether it be or not; and if we remove the carious head of the femur, and leave behind a carious acetabulum, our work is only half done,—yet such cases have recovered. It is true that, when the parts are exposed, we may get away carious bone from the acetabulum, but it is not less true that we may fail of removing all. The material points, however, remain: if there be no question that we may occasionally save life by having recourse to the operation, even though a comparatively useless limb remain, we are justified in performing it in such cases. It is, however, important to determine, if possible, whether caries of the acetabulum exists; and means should be taken to ascertain this point, because it is an unfavourable feature in the case. Still, cases have succeeded where such caries existed; and therefore Pott's dictum, that where there is caries of the acetabulum, no operation should be done on the hip-joint, has less value than without these facts it would have.

So long as the head of the femur remains in the acetabulum, there is great difficulty in determining when the time at which anchylosis may happen has passed; but when dislocation has happened, that difficulty has ceased. So long as there is no dislocation, if we are satisfied that the apparatus of the joint is destroyed, all our efforts should be directed to favour anchylosis, and perfect rest is the most important element for securing that object; and when it is likely to be accomplished, care must be taken that the position given may be that which is likely to make the limb most useful. When anchylosis is incomplete, it may happen that by prudent treatment a certain latitude of motion may ultimately be obtained, but the greatest care must be taken not to interfere too early, or that desideratum may be defeated.

APOTHECARIES' HALL.

Names of Gentlemen who passed their examination in the Science and Practice of Medicine, and received certificates to practise, on Thursday, 20th July, 1848.—Charles Walter Poulton, Cricklade, Wilts—Henry Tizand, Weymouth — Charles Crowdy, St. John's, Newfoundland.

Original Communications.

ADDITIONAL NOTES ON THE

MORBID ANATOMY, &c. OF CHRONIC RHEUMATIC ARTHRITIS OF THE SHOULDER AND OTHER JOINTS.

By Edwin Canton, F.R.C.S.

Demonstrator of Anatomy at the Charing Cross Hospital School of Medicine.

[Concluded from page 115.]

The hand.—This complaint attacks not unfrequently several joints of the hand and wrist, and we rarely find it affecting one of them singly. The young may be the subjects of the malady, and experience the local changes it induces; but the most common victims are the aged, in whom its peculiar ravages are marked during life by that order of symptoms which characterises the disease elsewhere seated; whilst enlargement and other distortion, impeding movement,—articular crepitus, experienced sometimes on motion,—soft anchylosis or spontaneous and partial displacement,—may constitute additional phenomena of the affection. These latter morbid conditions, however, are not to be regarded as peculiar to the hand; for the disease often stamps with like distinct impress other diarthroses. The appearances disclosed after death tally well with the abnormal states observed during life, and will be shortly described.

In the year 1805, Dr. Haygarth published a small work on Acute Rheumatism, to which was appended "a clinical history of the nodosity of the joints." The latter affection is clearly shewn, by its description, to be the one at present under consideration. "These diseased joints," it is remarked, "generally suffer, especially at night, but in a less degree than might be expected from such a considerable morbid change: they often feel sore to the touch. In one case the patient was attacked with severe spasmodic pains. As the disease increases, the joint becomes distorted, and, perhaps, in bad inveterate cases, even dislocated. In a few patients, a crackling noise was perceived in the joint when in motion, particularly in the neck. The skin seldom or never inflames." The author has more frequently seen the complaint in the hand than elsewhere. Out of thirty-four cases, one only was in a male; all the patients (two excepted) were above forty-one years of age, and the most common date of the commencement of the disease was between fifty-one and sixty years of age. A close connection has, curiously enough, been traced between the occurrence of the malady and the cessation of the menses; and it is stated, "in some the nodes appeared as soon as the menses became irregular —most commonly at the time when they ceased; in a few instances several years after this period."

Of all the joints of the hand, the first carpo-metacarpal is the one which I have seen to be most extensively affected. In articulations which are capable of the widest range of motion, the disease appears to cause the greatest degree of havoc, and this is well exemplified in a specimen of the complaint before me. Previous to dissection, the joint presented all the characters of a dislocation of the first bone of the thumb upwards on to the trapezium. The former could be readily drawn downwards, but, in the absence of traction, resumed its former position. I found the ligaments to be dense, but lax; the synovia thick and plentiful; the trapezium hollowed out to the depth of half an inch, with its upper margin projecting greatly beyond the level of the lower, and the interval between the two an inch. The cartilage was almost entirely absent, and minute apertures are to be seen on the exposed bone, the scabrous and irregular margin of which is here and there studded with osseous nodules. The upper end of the first metacarpal bone presents arrangements closely adapting it to these peculiarities. In the two succeeding joints of the thumb, similar evidences of disease are to be seen. No other articulation in the hand is affected.

In an early stage of the complaint, the portion of cartilage encrusting the lower and inner part of the articular surfaces is the first to disappear; and I have several times noticed, that, where enamel-like deposit has occupied its place, the movements of the thumb have been restricted to adduction and abduction, in consequence of the ridges and grooves which these surfaces present. This furrowed condition is by no means uncommon in the phalangeal joints.

In Cruveilhier's work on Morbid Anatomy, livr. xxxiv. pl. I., is represented the hand, and dissections of it, from an old woman of the Salpêtrière. There is great deformity, and all the joints are affected with what is termed "usure des cartilages." It is remarked of the case—"La malade attribuait sa maladie à un rhumatisme goutteux, dont elle aurait été tourmentée dès sa jeunesse." With respect to the frequency of the occurrence of this complaint in the hand, and the cause of it, the author observes—"Depuis sept ans que je pratique la médecine à la Salpêtrière, j'ai eu occasion de voir un assez grand nombre de fois le déplacement des phalanges consécutif à une maladie articulaire. Plusieurs des femmes qui présentaient des altérations, avaient été soumises à l'influence du froid et de l'humidité; d'autres faisaient remonter cette lésion à une grossesse, à un *rheumatisme laiteux.* Quelques-unes, qui n'avaient subi l'action d'aucune cause occasionelle appréciable, accusaient la *goutte.*"

"In the removal of the cartilage without suppuration," says Mr. Adams,* "in the substitution for it of porcelain-like deposit, and in the surrounding exuberance of new bone, we find this disease of nodosity of the joints of the fingers resembling accurately the analogous affection of the other joints, which has been supposed to be the slow effects of chronic rheumatism."

The deformity produced in the hand by the complaint is often considerable, and may be such as to prevent any useful employment of the part. There is at present a female in St. Martin's Workhouse, aged 88 years, the little, middle, and ring fingers of whose hand are permanently flexed upon the palm. The metacarpo-phalangeal joint of the index finger is considerably swollen from enlargement of the ends of the bones, and just above the articulation is an oval-shaped collection of fluid. The finger at this part is fixed in a state of flexion, and, at the same time, inclined inwards, somewhat behind the others; the motions of the two succeeding oints are free, as are those of the humb. The movements of the wrist are performed with ease, and the lower end of the ulna is enlarged, and projects backwards.

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* Cyclopædia of Anatomy and Physiology, article *Hand.*

The Spine.—I believe the joints of he vertebral column to be not unfrequently the seat of chronic rheumaism; and that certain appearances of he bones, which are so generally considered as indications of advanced years, to be, in point of fact, gradually produced by this disease in its progress. In examining the vertebræ in the recent state, we occasionally find that the depth of the bodies is diminished in front or on the side; whilst from around the upper and lower margin, osseous matter has been thrown out in greater or less abundance, and is thick at its origin; but irregular, bevelled, and thin where it is imbedded in the adjacent ligamentous tissue. This growth is sometimes compact, or it may be spongy, in texture. I have seen the anterior common ligament replaced by a broad bony lamina, lying in front of, and intimately united with, several vertebræ. Exuberant bone is not to be seen at the part corresponding to the spinal canal, or, at all events, not so placed as to encroach upon the latter. The inter-vertebral substance, when the bones are in the above-mentioned state, will in general be found to present a more dense, compressed, and brittle condition, than natural; whilst in some cases the disc has disappeared, and the bones which it had separated have become firmly anchylosed together. The spine may be bent either to the right or left, but, for the most part, the curve is forwards. It is on the joint surfaces of the articular processes that porcellanous matter is most frequently to be seen; and when I have met with it, it has been in the cervical and lumbar regions, situations in which mobility is enjoyed to a greater degree than in the intermediate part. In a vertebra from the neck, and one from the loins, at present before me, the upper and lower articular surfaces on the left side only are affected, and they are spread out to more than thrice their natural extent; bony matter is plentiful at their circumference, and a continuous stratum of porcellanous matter, presenting a fine polish, encrusts all that part where motion was performed. In connection with the mention of this deposit, I might again quote the passage already cited from Dr. Haygarth's work:—"In a few patients, a crackling noise was perceived in the joint when in motion, particularly in the neck." I possess a specimen of a lumbar vertebra, the inferior articular surface of which is wholly coated with ivory-like deposit, presenting ridges and furrows, curved and concentrically disposed in the long axis of the part.

The peculiarities which I have alluded to in reference to the bodies of the vertebræ, may—some of them, at least—be noticed in a preparation (No. 1374) in the King's College Museum. The description given of it is—"Softening and *caries* affecting the bodies of the cervical vertebræ."

An instance of the occurrence of this affection in the spine is mentioned by Dr. Todd[*]:—"Among the inmates of the Wandsworth Union is a poor girl, aged twenty-five, who is the most extraordinary martyr to this disease in all her joints, even in those of the *cervical vertebræ.*"

Ivory-like deposit.—A peculiar feature in this complaint is the deposit so commonly seen on the joint surfaces, and well known to all by the name of porcellanous, enamel, or ivory-like. It replaces cartilage, forms for it an efficient substitute, and, though lacking the pliancy and elasticity of the original, presents both polish and density, to ensure a certain facility of motion, and guard against injury from friction. It is found in situations where no cartilage had previously existed; and as new articular surfaces are being formed, to accommodate a bone in its altered position, a provision is required to maintain freedom of movement and the want supplied by the presence of this material. It is always in abundance where pressure is greatest; and by presenting an even or furrowed aspect, facilitates enarthrodial or secures ginglymoid motion. It will as readily clothe bone of new formation, as constitute a crust upon the original tissue. "L'état éburné des cartilages," says Lobstein, "est manifestement un effet de l'arthritis; une fois produit il détermine de la rigidité et des douleurs dans les articulations affectées et des craquements dans leur mouvements. Le poli dont je parle est sans doute l'effet du frottement; mais la substance éburnée résulte évidemment du depôt de la matière osseuse qui a envahi et détruit les cartilages diarthrodiaux; ce qui la prouve c'est son exubérance autour des surfaces articulaires, auxquelles elle donne un rebord saillant."

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[*] Practical Remarks on Gout, Rheumatic Fever, and Chronic Rheumatism of the Joints. P. 180.

I have here to acknowledge the kindness of Mr. Quekett, of the College of Surgeons, who has favoured me with the following interesting and original view respecting the formation of this material:—"On removing some thin slices with a saw, and making them sufficiently thin for the microscope by grinding away the cut surface, I found that the bone was more than usually dense, and that there was almost total absence of Haversian canals, which made the bone more dense; this led me to speculate on the cause of this porcellanous deposit. Recollecting that the French-polisher (when he wishes to give a fine polish to rose-wood, mahogany, or any other woods which have an open grain) first fills up the pores in the wood with some wax, or resinous material, and then polishes, whereby a fine lustre is obtained, it at once struck me that no bone could present this porcellanous appearance without its canals were first filled up; and I then began to consider how this took place. In every bone which I examined, having this deposit upon its surface, I invariably found that in the immediate neighbourhood of the deposit that there was an additional quantity of bony matter thrown out; and I considered that there would have been a similar growth upon all the other parts, had there been no friction of opposed surfaces in these places—the exuberant growth being kept down by the friction. The only other places in which new bone could be deposited were the canals, which were by this means filled up, and the bone rendered more dense in consequence, which dense bone, being subjected to constant friction, became polished, and hence the cause of the so-called porcellanous deposit."

Displacement of bone.—A peculiarity to be noticed often in this affection is displacement of bone, predisposed to, in some points, I believe, by relaxation of the ligaments, consequent upon the presence in the articulation of an undue accumulation of synovia, which becomes thicker, and of a deeper yellow tint than natural; whilst, in others, the removal of certain fibrous tissues, as the tendon of the biceps and the action of surrounding muscles, explains the cause of this faulty position.

The extent to which displacement occurs is greatest in enarthrodial joints; but it should be stated that the term *displacement* must bear a limited signification only, inasmuch as the joint-surface of a bone does not always leave its recipient cavity, which becomes enlarged, whilst the part corresponding to it expands, as seen in the hip and shoulder; but, at the same time, in the latter, from the loss of long bicipital tendon in part, the humerus shifts upwards, to articulate with the under surface of the acromion process, so that the distance between the latter part and the external condyle is slightly diminished; and the elbow, when placed by the side of the chest, does not extend quite so low down as its fellow. Again, in the hip this relative displacement is dependent mainly upon the neck of the femur assuming the horizontal direction, and being removed partially or completely by interstitial absorption, when the limb being proportionably drawn up, becomes shorter than its fellow by an extent varying from an inch to two inches or more. The expanded head of the bone is often so locked into its widened cavity by circumferential bony growth, that dislocation, in the ordinary acceptation of the term, could only be effected by great violence—violence, indeed, which would more probably produce fracture than cause luxation. The displacement bears reference to the heel, malleolus, patella, and trochanter major of the opposite limb; whilst the joint itself—so far as regards the correspondence of articular surfaces—is as intact as the opposite one. Cruveilhier terms this faulty position "déplacement consécutif."

A partial displacement, in the usual sense of the word, may, however, occur; and an instance has been cited in the case of Harrison, where, on one side, was an incomplete luxation of the acromial end of the clavicle.

Loose cartilages.—These bodies have been noticed in various articulations, but the situation in which they are perhaps most commonly to be found is the knee-joint. An explanation of their origin is variously given by different authors; but when present, in connection with chronic rheumatic arthritis, they seem almost invariably to have been formed as bony or cartilaginous matter, deposited in the fibrous textures around or within the joint, and becoming detached, accommodate themselves to the altered form and restricted movements of the articulation. We not unfrequently see, in this affection, these bodies placed in the substance of the ligaments, or more or less projecting into the interior of the joint; and sometimes a single one is to be seen enclosed in a pouch-like offset of the synovial membrane. An example of this arrangement I met with in the first carpo-metacarpal articulation which had been attacked by the complaint under consideration. The little body was oval in form, irregular on the surfaee, less than a quarter of an inch in length, of semi-osseous consistence, and a grain in weight.

Mr. H. Labatt, in describing the appearances found in this disease affecting the shoulder-joint, says—"The capsular ligament, being divided internally and inferiorly, considerable ossific deposit presents itself in this direction, at the junction of the head and anatomical neck of the humerus; and projecting into the joint, but imbedded in and evidently connected with the tendinous structure of the subscapularis muscle at its insertion, is an osseous body, rough on its surface."

104, St. Martin's Lane,
June 1848.

ON
GASTRIC OR GASTRO-ENTERITIC FEVER.

By Charles W. Turner,

Member of the Royal College of Surgeons, one of the Surgeons to the Dispensary, &c. at Minchinhampton.

Within the last few years a peculiar type of fever has prevailed in some districts, altogether marked by a different set of symptoms, and requiring a different treatment from the fevers ordinarily occurring in England. The forms of fever heretofore prevailing in our own climate have been called simple, continued, or typhus; and although in some of these cases there is a marked irritation of the gastric membrane, yet such a symptom is by no means invariably present. In the form of fever, however, of which I am now speaking, irritation of the gastric mucous membrane early developes itself, and remains the most prominent symptom during the continuance of the disease; and hence, gastric, or gastro-enteritic, appears to me as the most suitable designation for this type of fever. Some years ago, M. Broussais directed the attention of the profession to the irritations and inflammations, as particularly affecting the stomach and bowels in fever; and in so doing he has deserved well of his medical brethren: at the same time, there can be no doubt but that he drove his inflammatory theory too far, as even in the putrid fevers of Pringle and other old authors, his favourite gastro-entirite alone was perceptible; indeed, worms, which are so commonly found in the intestines after death, were thought by M. Broussais to be produced by gastro-enterite. I cannot imagine a local inflammation to be the cause of all fevers;—few fevers terminate fatally without producing organic changes, and these changes, for the most part, are the result of inflammation: again, in other cases, the brain, the lungs, or the mucous membrane of the stomach and alimentary canal, are unmistakeably the seat of inflammation. Different epidemics are marked by a particular class of symptoms, influenced and modified very materially, as I believe, by the atmosphere. The weather which prevailed in 1846 would, I should consider, be highly conducive to the development of fever. It will be remembered the summer of that year was remarkable for the extreme sultry and oppressive state of the atmosphere; and it will not easily be forgotten (especially by butchers) with what rapidity animal substances became tainted, and passed into a state of decomposition. Fever that summer was very prevalent in many places;—places were the seat of fever where none had previously existed, scarcely within the memory of man, and amongst these places Minchinhampton may be noted as one. From the situation of this town, it would be considered one of the very last places likely to be the seat of fever,—*neither had fever been known here for half a century*, till some few cases made their appearance here at the end of 1845, and that without any satisfactory cause. The fever of 1845 was of the simple or continued form, not at all characterised by the gastric symptoms so very observable in the type of fever which prevailed here in the year 1846. No case of fever presented itself in this place until the end of June 1846, and that case happened in the person of a little girl who came from Reading upon a visit at a gentleman's house in the town. The second case was that of the lady at whose house the child was visiting: this was about three weeks from the child's illness. The third case which occurred was the gardener: it then appeared at the other end of the town, just where you might expect—namely, at the house of the person who washed the linen; one or two of the washerwomen became ill, and from that time cases broke out here and there, not only in the town, but surrounding it; isolated cases occurred here and there in the country, a mile or two from the town, clearly traceable to local causes. Indeed, one of my worst cases evidently arose from the miasma arising from the drains and privies which were situated at the back of my patient's house. This case occurred in the person of Mr. Simpkins, the druggist, at the back of whose house, besides a butcher's heap of manure, there also existed three privies, all opening to the atmosphere, the stench from which, at the change of weather, he tells me was intolerable. No wonder, then, that the family occupying these premises should become the subjects of fever, especially if you bear in mind the summer of 1846. I do not intend to offer any opinion as to the cause of the fever which prevailed here, or at Bisley, Fairford, Reading, &c.; but certain it is that no case of *gastric fever* came under my notice; neither was there any case of fever in the town until the little girl arrived from Reading on a visit.

I must offer a remark or two on the case of Mr. Simpkins, and the accumulation of dirt and filth behind his house. During the time this person was labouring under fever it was impossible to ventilate his room, for it was observed, whenever this was done, his symptoms were uniformly aggravated the next day. After he had been ill about fourteen days he became sufficiently convalescent to be removed to another room; his mother took the opportunity of having his room cleaned, and of opening the window all day; the consequence was, he had a restless night, and was manifestly worse the next day. For several days he became worse, notwithstanding the care and the remedies employed. It was now very clear to me, that life, with respiration of such an atmosphere, was impossible; and that die he certainly would, unless removed. I had him lifted out of his bed, placed in a carriage, and removed to the village of Avening, about three miles distant: the next day he was better, and he continued to improve day by day, comparatively without the use of medicine.

My house is situated nearly opposite to Mr. Simpkins's, and my nursery windows are at the top and front of the house. I think it very probable that the miasma (arising from the nuisances which I have before mentioned) was the cause of my children being attacked with this epidemic; but it is possible, as has been suggested to me by Dr. Forbes, of London, that I might myself have conveyed the contagion to my nursery.

I shall always consider that Mr. Simpkins's life was preserved by his removal; and it is curious to observe how change to another district will suspend the development of the attack of fever, even after the fever poison has been received into the system. To illustrate this I shall mention a case or two. A milliner came to me in considerable alarm and anxiety, under the impression that one of her apprentices was sickening with fever, and begging me to come down and see her immediately. On visiting the girl I found such to be the case; she had not gone to bed, but she was evidently labouring under the first symptoms of fever. The person said her business would surely be ruined if her apprentice was laid up with fever in her house. Under these circumstances, I advised her immediate removal. She was at once conveyed to the railway station, and placed under the care of her friends at Reading; and what is most remarkable, notwithstanding fever was prevailing very extensively at that place, this girl appeared for two or three days to have got rid of her threatened attack. After that time, however, it came on, and she was seriously ill. At the time I removed Mr. Simpkins to Avening there was no case of fever in the village, neither had fever prevailed there during the time I was acquainted with the place, a period of fourteen years, until the autumn of 1847: it then became the seat of fever to a very great extent in this way, and has continued more or less to the present time. A Mrs. Baxter had a daughter ill of fever in London: she went up to town, and brought her sick child back to Avening with her. This was the first case in the village. The next cases were also in her own family. Subsequently the inmates of the cottages adjoining became affected with fever; and about the same time, a gentleman, a patient of mine, who was lodging at Mrs. Baxter's house, was seized with fever. He was lodging at Mrs. Baxter's until his own house was prepared; and on getting into his own house he had a severe illness. This gentleman's attack was of the same character as that which prevailed at Minchinhampton in 1846. At first I was not disposed to look upon this fever as very infectious, but cases soon occurred which caused me to alter my opinion. This gentleman's servant took fever, in consequence of waiting upon her master. After her recovery so far as to be able to remove, she went to her friends, who lived in Herefordshire, where no case of fever of any kind had previously existed. She had been home, however, but a very short time, when her aged mother and her sister became the subjects of fever. In like manner with a servant who had been waiting upon my children: she went home (a distance of four miles), sickened with fever, and communicated it to the rest of the family, her mother dying of it.

The symptoms ushering in this disease are—vomiting and bowel complaint; pains in the back, limbs, and head; extreme chilliness, succeeded by heat; and in many cases, even at the commencement, we had partial perspirations. The sensorial functions were much deranged, and the brain seemed to have lost its powers as a thinking organ. There was delirium, but it was curious to observe, that if you asked a question, you would always get a correct answer; and this state of things I observed in the earliest, and consequently some of the worst cases. The patient would complain of confusion, great noises in the head, and an entire inability to collect his thoughts. In most cases there was deafness; but in one case, where previously for years there had been deafness, there was a morbidly sensitive state of the auditory nerves, and the hearing became distressingly acute for a time. The deafness generally remained until the termination of the fever, but in no case that I am aware of was permanent mischief done to the organ of hearing. When the paroxysms of fever came on, then there was a great increase of temperature about the head, but not more in proportion to the other parts of the body. The skin was very dry and hot; the tongue was slightly coated, but in no case loaded; the sides were red, and the papillæ enlarged and elongated; the pulse never less than 100, and commonly 150. In all cases there was a remarkably irritable state of the bowels, attended with extreme tenderness of the epigastrium, and more or less pain over the whole surface of the abdomen. Epistaxis was a very common symptom. In most cases the diarrhœa was a troublesome symptom, but in some cases it was of such an inveterate character that no remedy would arrest it. The motions frequently contained but little fæcal matter, and consisted principally of flocculent mucus, having a very disagreeable smell, which Dr. Evans, of Gloucester (who was associated with me in some cases), compared to the smell of decayed bone. In other cases the evacuations were of that ochery character so commonly attendant on ulceration of the small intestines. The thirst was very great. The secretion from the kidneys in all cases quite natural and clear. There was the usual restlessness of fever, and in some cases great feeling of sinking and prostration. This state of things continued from fourteen to twenty-one days, the recovery being always extremely slow, and the pulse keeping very high even when the patient is in a state of convalescence.

As this *gastric fever* is essentially different from the *gastro-enterite* of M. Broussais, so also must be its *treatment*. M. Broussais considers all fevers to arise from irritation; and he further goes on to say, "that every irritation that produces fever is an inflammation." These views so regulating his practice, the consequence is, that in every form of fever, and in every stage, he applies leeches to the region of the stomach, or to the head, chest, or extremities, pursuing the sympathetic irritation or inflammation of gastro-enterite through all these different localities, and this to the exclusion of almost every other remedy, save the most rigid starvation. Such a plan of treatment pursued in a case of gastric fever such as I have described, would, I doubt not, speedily destroy the patient. The first consideration is to get rid of the irritation of the stomach and bowels, which will best be accomplished by a mixture of chalk and opium, and a mustard plaster over the epigastric region. It is a peculiar feature in this type of fever, that opium is not only well borne from the very commencement of the attack, but that it is also highly beneficial, which circumstance is very unusual in all cases of fever that have previously come under my observation. Not only is opium well borne, but I have found it convert a dry tongue to a moist one. This was particularly marked in the case of a young lady, the daughter of a thoroughly practical physician (Dr. Davies, of Birmingham), who was under my care. I mentioned to the Dr. that my practice each night was to give my patient a dose of Pulv. Ipecac. Co. with Hydrarg. c. Creta, and that I always found it had the effect of greatly lessening delirium when present, and, at the same time, produced moisture about the tongue and fauces. One night we determined to omit the opiate, and the consequence was, we had an increase of fever, with restless night. The following night the powder was given; shortly after, my patient fell asleep: after sleeping three or four hours, she awoke, and expressed how much more comfortable she was, and that the dryness of the mouth and throat had gone away. Such a state of things would not be in ordinary cases of fever. Even after the bowels have been steadied, there will be occasion, as I have before said, to give an opiate at least once in twenty-four hours, as there is a constant disposition to diarrhœa. The combination I prefer is that which I before adverted to—viz. the compound powder of Ipecacuanha, with the Hyd. c. Creta; this has the effect of quieting the bowels, and the evacuations contain a due admixture of bile, which is not the case when the Hyd. c. Creta is omitted. In these cases such is the disposition to relaxation that I rarely have recourse to aperients, and it is surprising to see what purgative effects, and consequent prostration, will result from the exhibition of a few grains of powdered rhubarb, or a teaspoonful of castor oil. The great danger to be apprehended in these cases is ulceration of the small intestine, and the indication, therefore, is to get rid of as early as possible the irritated state of the gastro-intestinal mucous membrane: for this purpose I have found the soothing plan the best. Patients bear very ill the loss of blood, and I think depletion should never be carried further than the application of a few leeches: in the majority of cases I found a blister efficient in removing the tenderness of the epigastrium, especially if followed by warm cloths, covered or not, according to circumstances, with oiled silk. Then I have usually given a little draught every three or four hours, consisting of Liq. Ammoniæ Acet., with the Ammonia slightly in excess if there be much feeling of prostration, or else a mixture with bicarbonate of potash. Sometimes, in bad cases, the opiate at night was not sufficient to keep the bowels quiet: in that case I usually threw up into the rectum from twenty to forty drops of tincture of opium, in some cold water, which I always found successful; and I considered it preferable to administering more opium internally. Then, as to diet, I allowed my patients to have as much cold water, toast and water, rice water, or milk and water, as they desired. I found many of my patients would take a good deal of milk. Another feature in this form of complaint, is the tedious convalescence: in typhus, when you once get your patient round the corner, they move on steadily and progressively: not so here: there is a constant disposition to relapse, and the digestive organs are left in such a weak state as to require much care. It is a long time in some cases before the bowels will get into a settled state. Under such circumstances I have found the mineral acids serviceable, especially the preparation of Tr. Ferri Sesquichloridæ.

Minchinhampton, July 1848.

THE LITERATURE, PROBABLE PATHOLOGY, &c., OF CAULIFLOWER EXCRESCENCE OF THE UTERUS.

By Dr. Renaud.

In the reports of the Manchester Pathological Society,* I published a case of the cauliflower excrescence of the uterus, and then gave briefly a detail of the microscopical appearances of the diseased mass, as it exists prior to death.

Further investigation has served to convince me of the truth of the statements then made; and a reference to books has revealed the exceeding paucity of information and detailed cases accumulated since the early beginning of the present century. I now propose to give the result of these inquiries, hoping they may be deemed worthy of record, when the fact is remembered for how long a period cauliflower excrescence of the uterus remained undiscovered, and that at the end of forty years succeeding to this discovery, doubts as to its real nature still remain, which are as widely shared by the profession as they are detrimental to the public.

Hitherto cauliflower excrescence has been revealed as an advanced and confirmed disease: its early beginnings, and its method of attack, have passed unnoticed. But, as every fresh accession of knowledge of the structure of the disease in its completed form may tend to reveal its nascent character, it cannot be otherwise than right to investigate facts as they appear, in hopes of arriving some time at a truthful demonstration.

I would venture to define cauliflower excrescence of the uterus as a sessile tumor, lacking sensibility, and possessed of a certain degree of malignancy sufficient to warrant a belief of its being a species of soft cancer. That its ordinary seat of origin is at the mouth and neck of the uterus. That to the unaided vision, it greatly resembles cauliflower or broccoli. That its structure is compound, being made up of a series of looped capillaries carrying red blood, of very delicate texture, and bearing a strong resemblance to the placental tufts, whose interspaces are filled up with nucleated cells closely packed, and to the presence of which, its form, density, and brittleness, are to attributed. That these cells have no distinguishable difference from the cells of medullary cancer. That the tumor secretes or exudes ordinarily a watery discharge, for the most part inoffensive and inodorous, which is made up of the serum of blood, the disintegration of the cells just described, epithelium cells which are tesselated and line the vaginal walls, and the natural mucus of the passages. That in addition to the watery discharge, there are frequent losses of blood and bloody sanies, the result of mechanical injury to the capillaries. That the discharge, from being inodorous and watery, may become highly offensive, and be muco-purulent, or even wholly consist of a ropy mucus; or these appearances may usher in the disease, and decline as it advances. That the disease may or may not be associated with cancer of the substance of the uterus or surrounding parts, but, that when so associated, the unmixed cancer is for the most part secondary. That when removed, it has a constant tendency to return, and that at each return the probability is increased of its being found in company with secondary cancer of the uterus. That its ordinary way of destroying life is by exhaustion, the consequence of hæmorrhages and discharges; but when associated with cancer of the uterus and other organs, the death may take place independently of the discharges, *e. g.* from softening and breaking up of cancerous masses, &c., as happens in the cases of those who die from malignant diseases unassociated with cauliflower excrescence. That its dimensions vary from exiguity, to a size large enough to extend beyond the capacity of a relaxed vagina, and grow outwardly. That its consistency varies in proportion to the amount of cancer matter mixed with it.

This definition will be seen to differ from any previously given—1st, in that it fixes the exact structure of the tumor—2nd, that it softens down the line of demarcation existing between it and fungous polypus of the uterus—3rd, that it makes the progress and termination of the disease less absolute.

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* Vide Med. Gazette, 1847, page 1092.

Literature.—To assign the discovery of this disease to Dr. John Clarke, would be to fix the year 1808 as that in which the medical profession first came to a knowledge of it. To Dr. Clarke exclusively belongs the merit of first classifying the disease, and describing its symptoms. Prior to this date, the disease when seen received differen tnames. Reports, when given, were not clear, and a degree of difficulty is experienced in well defining the writer's meaning. As early as the year 1666, a clear notice of this disease, in a form modified by abundant admixture with soft cancer, is detailed in the German ephemerides, by one George Seger, and is called a fungous excrescence, resembling prolapsus of the uterus. The case, greatly abbreviated from the original, is somewhat as follows:—

"Mary, widow of David Scott, aged 47 years, and in the eighth year of her widowhood, a discreet and virtuous woman, caught cold whilst menstruating, and began to suffer pains in the belly. Shortly afterwards a little tumor appeared at the pudendum, which increased daily. In the January of 1667, the substance had attained to the size of two fists, was very fœtid, and had a sphacelated appearance. It was removed by operation, and weighed upwards of one pound. They who saw it concluded it to be a fungous excrescence. A subsequent attempt at entire removal was made by ligature, but the woman being phthisical, the attempt was abandoned, and she shortly died. On inspection, the uterus was found sound, and in its proper place. The sphacelated substance was a fungous excrescence, springing from the anterior and major part of the neck of the uterus, *substantia rugosa, spungiosa, et fungosa, uteri colli.*"

A somewhat similar excrescence to this is detailed in Burton's Midwifery, obs. xxx., published A.D. 1751. In this instance there was considerable consistency of tumor. During its progress, it was attached to two thirds of the uterine neck, was insensible, and poured fourth so abundant a discharge, sometimes inoffensive and sometimes devoid of odour, as "to wet the place she sat upon, quite through all her petticoats, &c." This tumor was removed, and recovery followed.

Dr. Denman seems to have been aware of the disease so early as the year 1788. He classed all polypi as fungous excrescences of different densities; and he warned parties against their removal when the uterus too was diseased. He also drew a distinction between sessile and pediculated polypi. Moreover, in 1808, Dr. Denman further stated his opinion, in presence of the members of the Med. Chir. Society, that a large cauliflower excrescence of the os and cervix uteri could not be operated on without increasing the miseries of the patient, and eventually shortening her life; and for the reason that it is so incorporated with the os and cervix that it is not possible to say where the original part ends, and where the disease begins.

It was on the 4th of July of this same year (1808) that Dr. John Clarke read a paper before the members of the Med. Chir. Society, the object of which was to give an account of a disease not hitherto described, as far as he knew, by any writer on the diseases of the female organs of generation, or in any book on morbid anatomy, though it was far from being uncommon. Dr. Clarke gave the name of cauliflower excrescence, meaning thereby to distinguish the disease from cancer—a distinction that at the present day should be received with caution, by reason of the more wide range now assigned to cancerous diseases, through an improved knowledge of pathology and the more general use of the microscope.

Dr. Clarke observed that women of all ages are attacked indiscriminately with the disease, and that he never met with an instance where it did not terminate fatally;—that it emaciates and destroys the patient through the discharge, which he never saw to be purulent, although he sometimes found mucus in it. In proof of his anxiety to cure the disease, we find him removing an excrescence by ligature, but his patient shortly after died of cancer of the uterus.

In 1816 Dr. Canella treated a case of excrescence of the uterine neck,* which commenced on the anterior labium, as a rapidly growing and soft *pediculated* cancerous fungus. The anterior lip was removed in the December of 1816. In April 1817, a sessile cancerous excrescence formed on the posterior lip, and was similarly removed. In May, 1818, new vegetations were discovered forming an unequal lobulated fungus. These were attacked and destroyed with caustic, after continuing the applications, at intervals, for four months. The patient was supposed to be cured, but she died in 1820 of cancer of the uterus.

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* London Med. and Phys. Journal, vol. xviii.

By turning to M. Levret's paper, published A.D. 1819, in the Mém. de l'Academie de Chirurgie, it will be found that whilst he makes no express mention of cauliflower excrescence, he speaks of two varieties of uterine polypi, or "vivaces," which he considers incurable. The one is digitated, the other in a single mass, semi-globular, filling the vagina, and rendering the uterus more or less painful. He viewed them as vegetations of uterine ulcers, and concluded that operations by ligature were useless, by reason of its being impossible to destroy the immediate cause of the fungosities. He describes these vivaces as either lacking a covering membrane, or possessing one too fine for discrimination.*

Dr. Blundell wrote on this disease in his Lectures, published in 1828, stating that it is a malignant efflorescent excrescence, sometimes seated on parts that have undergone little change of structure, and sometimes on an indurated scirrhous mass;—that the fœtor of the discharge is not equally certain with that of other malignant growths: clearly inferring by this remark that he did not consider the inodorous and colourless discharge essential to the disease in all cases.

During this same year (1828) a memoir, by M. Avenal, appeared in the pages of the Revue Medicale, entitled —"On the Treatment of Cancerous Affections of the Neck of the Uterus, and on its amputation in particular." Without naming cauliflower excrescence, M. Avenal describes a "fungous and carcinomatous degeneration" of the neck of the uterus, bleeding on the slightest touch, soft, grey, and brittle, a portion of which may be easily detached by the finger. In the two cases he has given, the symptoms are perfectly in accordance with those of cauliflower excrescence; and the diseased mass was in each removed by excision.

M. Nauche's work on diseases of women appeared in 1819. He makes no specific mention of this disease, but warns operators to be cautious in the removal of all polypoid growths, for that some were cancerous.

In 1831 Sir C. Clarke's book appeared on Diseases of Females. Here an opinion is advanced that the tumor is covered over with a fine membrane, from which the secretion is poured out, and that bleeding only takes place when this membrane is injured;—that innumerable small arteries terminate on this membrane, and act as exhalents;—that the tumor is insensible, and attached solely to the os uteri, wholly or in part;—that the resemblance between cauliflower excrescence and the fœtal placenta is so strong, that they differ only in name—or, in other words, they are each a distended set of blood-vessels. Another work on diseases of women, by Dr. Gooch, appeared in 1831. He seemed disposed to include the vivaces, fungus polypus, and cauliflower excrescence, in one category; and even asserted that he had known the disease to spring from the fundus of the uterus. He viewed it as a fungus hæmatodes.

In 1834 M. Lisfrane gave an opinion that the vegetations and soft fungous tumors of the neck of the uterus are not originally cancerous, but have a tendency to become so at a later period.

Madame Boivin, in the same year (1834), classed the disease as fungous cancer, and very analogous to the vivaces of Levret.

Two years afterwards (1836) Dr. Davies wrote a precisely similar opinion.

I find no exact mention made of this disease in the Dictionnaire de Médecine. In speaking of vesiculo-vascular polypus, it is described as liable to be confounded with fungosities springing from the excoriated or ulcerated neck of the uterus; and the inference is drawn that such fungi may originate in this form of polypus. In the article "Cancer," in this same Dictionary, and arranged under the fourth variety of the primitive forms of cancer of the neck of the uterus, viz. where it commences with a partial or general tumefaction of the neck, which is difficult of diagnosis, and liable to be confounded with inflammatory engorgement, it is stated that, when confirmed, it produces in some persons encephaloid cancer, and in others fungous cancer (cancer fongeux sanguin*) The author then goes on to state, that according as the vascular or encephaloid element predominates, so accordingly will the anæmic state be brought about: in the one case by constant bleedings following the most trifling exercise; or, in the other, the same breaking up of constitution will result from the draining away of an enormous quantity of sanies, slightly consistent, almost colourless, and, it may be, less fœtid than the sanious discharges of other varieties of cancer. If, after gathering these facts together, the passage that immediately follows be added—viz. that this form of cancer attacks much more slowly the body of the uterus and adjacent parts—a moderately graphic account will be framed of cauliflower excrescence in the modified forms in which it is found to exist.

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* I have given Levret's description of the sessile variety of the "vivaces," and must leave it an open question whether they be cauliflower growths or not.

In 1840, Dr. Simpson wrote that he believed this disease to be an erectile tumor in its early stage, or simple vascular sarcoma, with a tendency to become the seat of carcinomatous or encephaloid tumor.

Three writers appeared in 1843—Dr. Ashwell, Dr. Lever, and Dr. Anderson. Dr. Ashwell defines cauliflower excrescence of the os uteri as a morbid growth, consisting of minute ramifications of arteries, connected by a flocculent tissue, and covered with a secreting membrane, having a granulated surface, bleeding on being slightly handled, and almost constantly pouring forth a watery discharge; varying in size, nearly painless, and proving its malignancy by returning after removal either by knife, ligature, or caustic. Dr. Ashwell saw seven or eight cases, all of which proved fatal.

Dr. Lever adds nothing to the information already extant at the time of his writing. He gives a clear and concise history of the disease, believes it to be malignant, and follows the treatment recommended by Sir Charles Clarke. Dr. Lever met with three cases out of three hundred and fifty of uterine cancer.

Dr. Anderson examined the growth microscopically. From the character of the cells, he did not hesitate to consider it as a variety of cerebriform or encephaloid disease. He differed in opinion from Sir C. Clarke and others in the belief of a fine vascular membrane being spread over the surface of the tumor. In his opinion, the tumor consists of parallel plates of a whitish matter, separated from each other by reddish lines, which he concludes to be blood-vessels ramifying over the fine laminæ of a membrane, everywhere dipping complexedly into the tumor, beautifully vascular, and very thin. He could not distinguish the course and distribution of the capillaries, but entertained no doubt of the whitish cell substance being formed from the vascular membrane.

Mr. Heming, in 1844, gave testimony in favour of a malignant origin to this disease; and Dr. Montgomery did likewise in 1846.

In 1846, also, Dr. Walshe's work on Cancer appeared. He feels undecided about the nature of cauliflower excrescence, but believes it to be none other than a modification of encephaloid.

In 1847, Mr. Lee's work appeared on Tumors of the Uterus. In that part which treats of califlower excrescence, he concludes, after running over the evidence of Dr. and Sir C. Clarke, that the disease is traceable to no cause, but that it is not malignant. He agrees with Dr. Montgomery concerning the variableness of density of the tumor; thinks it liable to be reproduced; examined its minute anatomy, and declared it to be free from a common investing membrane; that numbers of nucleated cells exist in its structure, and that the mass swarms with blood-corpuscles and cells, but that the course and distribution of the blood-vessels could not be distinguished with sufficient accuracy; that the tumor bears a resemblance to macerated placenta, but a much more close resemblance to the fronds of some sea-weeds; that the tumor has a membrane highly vascular for a basis, and that this membrane has the power of forming from the blood a whitish cell substance, which is deposited on a layer around it; that the discharge comes from the vessels; that, although the tumor is in itself insensible, the patients are themselves variably sensible to pain in the neighbouring parts; that a cautious prognosis should be given; and that several instances were on record where the disease had not reappeared after entire removal.

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* To those who desire to know the exact meaning attached to the "tumeurs fongeux sanguin" by French authors, the "Voyage à Londres," by M. Roux, in 1814, or the surgical work of M. Breschet, may be recommended.

In Mr. Syme's Pathology, lately published, is the history of a case operated on, which was considered to be cured; but, as the woman left hospital eleven days after the operation, there may reasonably enough exist some doubt as to the permanence of the cure. Mr. Syme's opinion is, that cauliflower excrescence is not malignant.

[To be continued.]

NECESSITY OF COMBINING COMPARATIVE AND HUMAN ANATOMY IN TEACHING.

From my own experience as a teacher, I have no hesitation in expressing my conviction, that no one circumstance has tended so much to cramp the mind of the student in respect to one of the most essential of his pursuits, than the practice, till late years universal, and even now but too general, of introducing him to whatever knowledge he may attain to in the science of organization, through the exclusive portals of human anatomy, where all is so elaborate, modified, and therefore obscure. On the other hand, there is such an unbroken chain of connexion linking together the various classes of organs in the animal series, and the successive additions and developments proceed by such short steps, that the observer is conducted from simple to compound, much in the same way as the geometrician is led certainly, but almost imperceptibly, from the primitive and self-evident axiom to the final demonstration of a complex proposition. It is thus that while the student is obtaining a practical acquaintance with facts essential to the due comprehension of the human formation, he is at the same time acquiring that inductive frame of mind, which will be of invaluable aid in a science like that of medicine, where the phenomena, however arbitrary they may seem to be, observe, on the whole, a regular and definite sequence.—*Mr. Grainger's Hunterian Oration.*

MEDICAL GAZETTE.

FRIDAY, JULY 28, 1848.

Our readers may remember that a few months since, rumours were in circulation that a malignant fever had suddenly appeared in Westminster, and had caused great mortality. The origin of this fever was ascribed to the opening of some foul drains and cesspools, for the purpose of testing the efficacy of certain disinfecting processes. The subject was mentioned in Parliament, and so much popular feeling was manifested on the occasion, that Government resolved to institute an inquiry into the facts. The result of this inquiry is now before the public, in the shape of a third report from the Metropolitan Sanitary Commission; and it is satisfactory to know that the statements circulated in the public journals respecting the origin and mortality of the Westminister fever, are gross exaggerations.

We learn from this report, that there were only thirty-six persons attacked with the fever; but it is remarkable that thirty-two of them were attacked within the short period of eleven days. There were only five deaths, three among the scholars,* and two among the inhabitants. We subjoin a summary of the results at which the Commissioners have arrived:—

"After having devoted to the examination of the circumstances attendant on the fever that has occurred in this small locality, an extent of labour that might have sufficed to investigate the sanitary condition of a large mass of the population, we have found on the whole—That whereas it has been stated that fever broke out immediately after the cleansing of the cesspools, the fact is found to be that *eight weeks* elapsed between the emptying of the last cesspool and the first case of fever—a period which, according to the predominant medical testimony, puts out of the question that operation as an exciting cause of fever, even if it had been performed in such a manner as to evolve large quantities of noxious gases, instead of by a method which produces incomparably less effluvia than any process heretofore known. That whereas it has been stated that the fever was of an entirely new type, such as had never been seen or observed before in that or any other place; the fact appears to be that the type is one well known and recognized as prevalent for years past in that very locality and neighbourhood, as well as in all other parts of the metropolis. That whereas it was stated that fever was entirely unknown before in the place in question, the fact appears to be that fever had occurred there the year before, and also in 1846, as testified by Dr. Basham, and cases had occurred in former years; and, although no regular record has been preserved, there is good reason to believe that epidemics have from time to time occurred there, and that there has been no such entire previous exemption as reputed. That whereas it was represented that there was an excess of fever cases in the Westminister district after the cleansing operations, it appears, from particular inquiries in the places cleansed, that there has been a decided reduction in the sickness experienced, and throughout the district a less amount of sickness than previously. That whereas it has been stated that an offensive smell was perceived in the school, produced by the filling up of a cesspool that had been cleansed some weeks before,—the fact is found to be that this particular cesspool gave out no unusual smell on that occasion, but that the smell complained of probably arose from the emanations given off from a large cesspool which had never been cleansed at all, and which communicated with the whole line of a foul sewer passing directly under the school; the evaporating surface of this sewer, as far as it has been possible to explore it, which is only through a comparatively small part of its course, being estimated at 2,000 feet, or more than four times the surface of the 18 cesspools emptied in the early part of the year. *That the course of the disease followed very exactly the line of this sewer*, which communicates by direct openings with several of the houses where fever broke out, passes directly under the school and the dormitory, is in *close proximity with nearly all the houses in which fever occurred*, and is in so foul a state that the officers of the Metropolitan Sewers Commissioners, accustomed as they are to such examinations, were absolutely unable to proceed along it beyond a certain point, so that beyond that point it still remains unexplored. That the public sewers of the neighbourhood were comparatively clear of deposit, and gave off but a very small amount of effluvium. That if the private drains and the large branch sewer, which were by mistake surcharged with the soil from the cesspools, had been perfectly cleared out when the cesspools were emptied, the probable source of the extraordinary sickness and mortality would have been removed, and the health of the inhabitants in general as certainly promoted as the health of the porter of the cloisters and his family seems to have been improved by the emptying and filling up of the cesspools underneath his house. That the probability of the recurrence of a similar visitation will be diminished to the extent that the cleansing of the present house drains and branch sewers, and their substitution by a perfect drainage apparatus, are completed; excepting always the more remote and accidental emanations from adjacent districts that may remain uncleansed, from which it may be difficult entirely to protect the school or the Abbey-precinct."

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* Dr. Fincham states that only two of the scholars died from the fever.

This inquiry has not only proved that there was no ground for imputing the production of this fever to Dr. Buckland's disinfecting processes, but it has shewn the paramount importance of having a perfect system of drainage and sewerage. Thus we learn that the fever closely followed the line of the foul sewer, and that the houses in which the disease occurred were in close proximity to it; while the evidence of one witness shews that there was a perceptible improvement in the health of his family so soon as the cleansing operations were completed, and the cesspools adjoining his house were filled up.

The necessity of a permanent Sanitary Board for determining all questions connected with the production and diffusion of disease in the metropolis, is strikingly shown by this report. By putting an end to false rumours, and tracing disease to its real source, it serves to inspire that confidence which is one of the strongest preservatives against the attacks of epidemics.

We have no further authentic accounts of the westward progress of the cholera. It appears that on the 8th inst. the number of cases in St. Petersburgh amounted to 3790, and the fresh cases on that day were 853. The deaths were 574. On the 9th July, the number of patients attacked with cholera amounted to 3897. Up to the 1st inst. the attacks were 3474, and the deaths 1682. This is equivalent to a mortality of 48·4 per cent.

Reports have been circulated that Diarrhœa and Cholera, in a severe form, are becoming prevalent in the metropolitan districts; but, by a reference to the weekly table of deaths, these are proved to be unfounded. The state of health in the metropolis, as indicated by the rate of mortality, has undergone a gradual improvement since the commencement of the summer trimestrial period. Thus, the total deaths were in the week ending

July	1st . . .	1100
„	8th . . .	970
„	15th . . .	930

The weekly deaths, based on an average of five summers, are 972: hence on the total mortality there is no indication of any unhealthy condition of the atmosphere. The diseases which often acquire a special malignancy at this season are diarrhœa and cholera; and, with respect to the mortality from these diseases, the Registrar's table furnishes us with the following facts. The deaths from DIARRHŒA were in the week ending

				Under 5 yrs. old.
July	1st . .	42,	including	34
„	8th . .	57	„	51
„	15th . .	64	„	58

The weekly summer mortality from diarrhœa is no less than 66: hence, since the commencement of the summer quarter, the deaths from this disease have not even reached the summer average. It will be remarked, too, that a very large proportion of the deaths from this cause have occurred among infants and young children.

The deaths from CHOLERA were in the week ending

				Under 5 yrs. old.
July	1st . .	6,	including	2
„	8th . .	7	„	5
„	15th . .	9	„	6

The average number of weekly deaths from this cause is 7, which has been only once passed within the last three weeks. Out of the 22 registered deaths from this disease occurring among a population of two millions, 13 have occurred among infants and young children.

The state of public health is so far highly satisfactory. There is not the slightest ground for the assertion that we have yet among us those disordered states of the alimentary canal which are said to be the precursors of Asiatic Cholera. On the contrary, they are less fatal than the quinquennial average would lead us to expect; while the greater number of deaths are recorded in the period of infancy. Admitting that the Registrar-General's table shews the mortality, and not the *morbility*, of a population, there is no reason to believe that diarrhœa and cholera are more prevalent than they have been for several preceding summers; and it is at any rate certain that when the cypher of mortality does not rise in consequence of their prevalence, we have no reason to complain of the metropolis being in an unhealthy state.

Since the above remarks were written we have received the Registrar-General's return for the week ending on Saturday last. From this it appears that there has been a very sudden increase in the number of deaths. This is chiefly due to the increased fatality of diseases of the zymotic class. The deaths from diarrhœa were 94, but of these the very large proportion of 82 occurred among infants. The fatal cases of cholera were 21, of which 11, or more than 50 per cent., occurred among children under the age of five years. The deaths from scarlatina were no less than 90, to a summer average of 37; but of the 90 deaths, 87 were among young children. Although the return of the last week is more unfavourable than the returns of the three preceding weeks, there is nothing to indicate the existence of a virulent epidemic among the adult population—*i. e.*, in that class which is the most exposed to the attacks of Asiatic cholera.

Reviews.

Recent Advances in the Physiology of Motion, the Senses, Generation, and Development. By WILLIAM BALY, M.D. F.R.S. &c., and WILLIAM SENHOUSE KIRKES, M.D.; being a Supplement to the Second Volume of Professor Müller's Elements of Physiology. 8vo. pp. 132. London: Taylor and Walton, 1848.

DRS. BALY and KIRKES have done good service to Physiology, by the publication of the supplementary volume now before us. In a science which is making such rapid advances by the aid of chemistry and the microscope, it becomes important to record occasionally the degree of progress made. A volume like this, enables the possessor of Müller's Elements to bring up his knowledge to the present time; and it puts it in the power of all professional men, to make themselves acquainted with the most recent discoveries in one of the most interesting departments of medical science. How changed is the aspect of physiology since the not very remote period, when "Richerand's Elements" was the class-book in the medical schools of the United kingdom! The perusal of this supplement, shows that the microscope has completely revolutionized the science. We are carried from the external forms of organs into the structure of the minutest fibres,—the development of cells, and those other physical changes of the body, on which the building up of the animal system depends. All is laid bare,—we become familiar with structures inaccessible to the scalpel of the anatomist; but in spite of this apparent obstacle, they are described with the same facility, as if they were visible to the unassisted eye.

The title shews that this is a work of a fragmentary kind, *i. e.* without following any particular order or arrangement, it furnishes the reader with a knowledge of recent progress. It embraces in a small space, numerous observations, well selected and judiciously compared, on the physiology of Motion, the Senses, Generation, and Development. The following extracts will show the manner in which the authors have treated the subject; and the numerous references in each paragraph, will prove that much time and labour have been spent in the selection and collation of the facts :—

" *The rigidity of muscles after death.*—Much has been written of late on the subject of the post-mortem rigidity of muscles, though in addition to what was stated by Professor Müller, few new facts of importance have been obtained, beyond some which tend to confirm the general opinion, that the rigidity is dependent upon an actual contraction of the muscular tissue, and that it does not occur until the muscles have lost their irritability, or their power of contracting on the application of ordinary stimuli. Among other facts in proof of the latter of these circumstances, it has been observed by Dr. Gierlichs, that in frogs, in whom, as in other reptiles, the muscular irritability is very persistent, the rigor mortis is often not established for three or four days after death ; that in birds, on the other hand, whose muscular irritability endures but a short time after death, the post-mortem rigidity ensues quickly. Additional proof also has been procured, both by Dr. Gierlichs and other observers, that all circumstances which cause a speedy exhaustion of muscular irritability, induce an early occurrence of the cadaveric rigidity, while conditions by which the disappearance of the irritability is delayed, are succeeded by a tardy onset of this rigidity.

" The rigidity of voluntary muscles, from being the most evident, has attracted most attention, and the phenomenon has, until lately, been described solely in relation to this class of muscles ; but sufficient evidence has now been accumulated to warrant the conclusion, that the involuntary muscles also are affected by a post-mortem rigidity, which is, in all essential respects, comparable with that seated in the voluntary muscles. And this is true, not merely with regard to those involuntary muscles which, such as the blood and lymphatic hearts, are constructed of striped fibres, but also with regard to the tissues composed of unstriped fibres, such as the muscular coat of the intestines, and the contractile coat of blood-vessels and of the large excretory ducts. The observations of Dr. George Budd, and of Mr. Paget, have proved this in the case of the heart ; and the occurrence of the rigidity in the digestive canal has been shewn by Valentin, who found that if a graduated tube be connected with a portion of intestine taken from a recently slain animal, filled with water and tied at the opposite end, the water will in a few hours rise to a considerable height in the tube, owing to the contraction of the intestinal walls. The contraction of the blood-vessels after death was observed by John Hunter, and is now regarded as a well established fact, and one by which the empty state of the arterial system after death is in great measure explained"—(p. 9).

On Ventriloquism we find the following observations :—

" *Ventriloquism.*—The general correctness of Professor Müller's account of the probable mode of production of this peculiarity of the human voice, has been confirmed by M. Colombat, who states that by continually practising, in a manner somewhat similar to that pointed out by Professor Müller, he was enabled to obtain considerable skill in the production of this variety of voice. The essential mechanical parts of the process consist in taking a full inspiration, then keeping the muscles of the chest and neck fixed, and speaking with the mouth almost closed, and the lips and lower jaw as motionless as possible, while air is very slowly expired through a very narrow glottis ; care being taken also, that none of the expired air passes through the nose. But, as observed by Professor Müller, much of the ventriloquist's skill consists in deceiving other senses than hearing"—(p. 11).

It has been hitherto supposed that the human eye, unlike that of certain animals, was not luminous in the dark, but—

" Mr. Cumming has found that the human eye, when observed under favourable circumstances, appears almost as luminous as the eye of the cat, dog, and other animals provided with a tapetum, to which this luminous appearance has been hitherto supposed to be limited. For the purpose of observing this in the human subject, the person whose eye is to be examined should be placed in a dark room, four or five feet from the half-closed door, with his face towards a light held at an equal distance outside the door. By such a contrivance the reflection may usually be perceived by an observer standing between the screen and the light, and occupying a position as near as possible to the direct line between the source of the light and the eye examined. It varies in appearance from a red livid glare to a bright golden red or burnished brass tint. In some individuals the phenomenon is much more manifest than in others; and in all, the brilliancy of the reflection is proportionate to the intensity of the light used in the experiment"—(p. 15).

The most important additions are undoubtedly on the Physiology of Generation. Considerable care has evidently been bestowed upon this part of the Supplement; and the authors, in assigning to each observer his proper share of merit, have succeeded in comprising within a small space a large amount of valuable information. They have picked out the corn and thrown away the chaff:—this is exactly the kind of winnowing of facts, which will suit readers engaged in practice. They may desire to know what has been done in this department of physiology since they were students, what progress has been made during their *Rip-van-Winkle* slumber; but may be altogether indisposed to wade through British and Foreign periodicals for the purpose of satisfying their curiosity. Here they will find the information required: and if in the abridged form, the contents of the Supplement should not satisfy them, the references are so given that they may readily seek for more. We are particularly pleased with that portion of the section on Generation which refers to the *Discharge of ova from the Ovaries.* Much of the mystery which hung over this subject a few years since, is here dispelled. Full justice is done to the researches of Bischoff, Raciborski, and Ritchie, in reference to the production of Corpora lutea; but we do not find any notice of the observations of Dr. Knox published in this journal in 1843. According to Bischoff, the discharge of an ovum always gives rise to the formation of a corpus luteum; "but most of the recent writers on the subject, including Paterson, Lee, Ritchie, Raciborski, Deschamps, and Renaud, maintain as regards the human female, that a 'true and fully formed corpus luteum,' is met with only where an ovum has been impregnated, and consequently that such a body is a sure evidence (proof?) of previous impregnation." (51) The great question upon which physiologists have so long entertained conflicting opinions, therefore, turns upon this:—What is a true and fully formed corpus luteum, and how is it to be defined and recognized? We are informed that—

"The corpus luteum of the human female differs from that of the domestic quadruped, in being of a firmer texture and having more frequently a persistent cavity at its centre, and in the stelliform cicatrix which remains in the cases where the cavity is obliterated, being proportionally of much larger bulk.

The following are the more obvious phenomena of its formation:—First, the Graafian follicle which is about to discharge its contents, becomes very vascular, then its walls lose their transparency, and a very thin layer of soft yellowish matter appears in them. When the follicle bursts, this yellowish deposit increases. It does not, however, usually form mammillary growths projecting into the cavity of the follicle, and never protrudes from the orifice, as is the case in other mammalia. It maintains the character of a uniform, or nearly uniform layer, which is thrown into wrinkles in consequence of the contraction of the external tunic of the follicle. After the orifice of the follicle has closed, the growth of the yellow substance continues during the first half of pregnancy, till the cavity is reduced to a comparatively small size, or is obliterated; in the latter case, merely a white stelliform cicatrix remaining in the centre of the yellow body"—(p. 52).

With this description of the production of a corpus luteum, we may proceed to consider how far its physical characters will allow us to express an opinion as to whether it is or is not the result of impregnation.

"There is reason to believe that under normal circumstances the rupture of a Graafian follicle and the discharge of an ovum at the period of menstruation is attended with that change in the tunic of the follicle which constitutes the first step in the formation of the corpus luteum. For amongst the descriptions given by writers of ruptured Graafian follicles found in virgins and other menstruating women who could not have been recently impregnated, there are several in which it is distinctly stated that a layer of yellow substance existed in the walls of the follicle; and in other instances, bodies resembling in structure the corpora lutea of pregnant women, have been found in the ovaries of females who had menstruated at some distance of time, and who had not been pregnant. But the layer of yellow matter in the recently ruptured follicle was in such cases very thin, and the yellow body, though in all other respects similar to the corpus luteum of a pregnant woman, was of much smaller size. It appears, therefore, that the development of the corpus luteum does not proceed so far in the menstruating woman as in animals in heat. The reason of this inferior degree of development of the corpus luteum in the woman, in comparison with that in quadrupeds, is easily conceivable; the excitement of the ovaries and the whole sexual system being undoubtedly far greater in the female quadruped in the state referred to, than it usually is in the human female at the period of menstruation. The degree of vascular excitement in the generative organs attending the process of menstruation is moreover liable to great variety. It may sometimes be only just sufficient to cause the rupture of the follicle, and not adequate to the production of yellow substance by an organic change in its tunic. In this way we may account for the fact that in the greater number of the descriptions of ruptured Graafian follicles observed in unimpregnated women, no mention is made of the existence of a yellow deposit in the walls of the follicle. The follicles thus destitute of yellow substance when collapsed, would form the *corpora albida* of Dr. Ritchie. On the other hand we must admit that when great excitement attends menstruation, the formation of the corpus luteum may go on more rapidly and continue for a longer period, and that under these circumstances the resulting yellow body may be of considerable size.

If, in addition to the foregoing facts and considerations, the varieties in size of the corpora lutea formed during pregnancy are borne in mind, it will be seen that cases can seldom occur where the mere presence of one of those bodies can be taken as a proof of previous impregnation. The following practical rules, however, seem to be deducible from the facts detailed.

1. A corpus luteum, in its earliest stage (that is a large vesicle filled with coagulated blood, having a ruptured orifice, and a thin layer of yellow matter in its walls), affords no proof of impregnation having taken place.

2. From the presence of a corpus luteum, the opening of which is closed, and the cavity reduced or obliterated, only a stellate cicatrix remaining, also no conclusion as to pregnancy having existed or fecundation having occurred can be drawn, if the corpus luteum be of small size, not containing as much yellow substance as would form a mass the size of a small pea.

3. A similar corpus luteum of a larger size than a common pea, would be strong presumptive evidence, not only of impregnation having taken place, but of pregnancy having existed during several weeks at least; and the evidence would approximate more and more to complete proof in proportion as the size of the corpus luteum was greater" —(p. 57).

From these conclusions, it will be seen that the evidence which was formerly considered conclusive, is in truth only presumptive. A corpus luteum formed during menstruation under great excitement, may be as large as another formed in some cases during pregnancy: hence, unless we know of the conditions and circumstances under which the female was placed, it is utterly out of our power by a mere examination of the ovary, to determine the *true* from the *false* body. As the distinction is proved to be only relative and arbitrary, it appears to us that these terms should be henceforth abolished.

The connection of fecundation with the menstrual function is thus described:—

"Assuming, now, that the theory of the discharge of ova periodically at the times of menstruation, and exclusively at those times, is correct, as it certainly is highly probable, the question next presents itself,—how long after the extrusion of the ovum from the ovary, or how long after the cessation of the menstrual discharge, is fecundation possible. The passage of the ovum from the ovary to the uterus occupies, M. Bischoff says, three days in the rabbit, and four or five days in ruminants, and, therefore, probably eight or ten days in the human female. M. Bischoff believes that the ovum escapes from the Graafian follicle at the time when the menstrual discharge is about to cease, and he is of opinion, that in order to be fecundated, it must be acted on by the semen while it is in the Fallopian tube. From these data, then, he infers that sexual connection, to be fruitful, must take place within eight or twelve days from the cessation of the menstrual discharge. Raciborski thinks the time more limited. Out of sixteen women who gave him such information as enabled him to determine the time of fecundation, there was only one in whom this occurred so late as ten days after the cessation of the menstrual flux; and in this one the menses had been suddenly arrested several days before their usual time of cessation, so that the extrusion of the ovum, M. Raciborski thinks, did not take place till about two days prior to the act of sexual intercourse, to which it owed its fecundation. M. Raciborski relates several cases which seem to shew that impregnation may result from sexual coitus taking place one or two days before the period of menstruation. In one of these cases the menses did not appear at all; in three others they continued an unusually short time"—(p. 59).

We are elsewhere informed that Naegele is accustomed to reckon the duration of pregnancy at nine months and eight days from the last menstrual period, and in normal cases he has, according to his own statement, never been wrong. This is unquestionably a strong ground for believing that the discharge of ova is confined to the periods of menstruation, and that females are sterile during the intervening time.

The subjoined extract will serve to throw some light on the curious questions connected with sexual malformations. It is here demonstrated that at one period of uterine life, the rudimentary sexual organs are the same in the male and female, and a slight turn in the order of development, at this period, determines the sex. A small irregularity in the process of development will thus render the being an *androgynus* or *androgyna*.

"*Rudimentary Uterus in the Male.*—In the account given by Professor Müller of the mode in which the sinus urogenitalis of the early embryo is subsequently divided into two portions—pars urinaria, and pars genitalis, it is stated that while the former is converted into the urinary bladder, the latter is transformed into the vesiculæ seminales in the male, and into the uterus in the female. In relation to this subject an interesting fact has been discovered by Professor E. H. Weber; namely, that in the males of several mammiferous animals which he examined, and in man, the organ analogous to the female uterus which is formed in the embryo, persists in a more or less developed state, throughout the whole of adult life. In man this rudimentary uterus exists in the form of a somewhat oval vesicular body imbedded in the substance of the prostate gland: a portion of it projects as a narrow ridge along the middle of the lower surface of the prostatic portion of the urethra, and is commonly known as the *caput gallinaginis* or *verumontanum.* That it is a hollow body, and has no communication with the prostate, may be shewn by inflating it with air. Very commonly the orifice of this, which Weber calls the male uterus, remains patent, and may be discerned on the middle line of the urethra between the openings of the two ejaculatory ducts; sometimes it is very narrow, and in a few cases is even entirely closed. The male uterus is still more manifest in the beaver, where it is found enclosed within a fold of the peritoneum, and situated between the urinary bladder and the rectum, exactly in the position occupied by the uterus in the female beaver: in the male, also, as in the female, this organ is two-horned. Likewise in the male rabbit a rudimentary uterus exists and occupies the same situation as the fully developed organ of the female. The vasa deferentia open into the lower part of this male organ, just as their analogues the Fallopian tubes open into the upper part of the female uterus. It has also been found by Weber that the walls of this rudimentary uterus possess distinct muscular fibres, and moreover that when mechanically or electrically irritated they contract and manifest distinct peristaltic movements.

In the newly-born rabbit, the organs of generation, both external and internal, so closely resemble each other in the two sexes, that it is only possible to distinguish the male from the female by the manner in which the vasa deferentia differ from the Fallopian tubes. A male rudimentary uterus has also been found by Weber, in the dog, cat, sow, and horse. In the three former animals the orifice of the uterus usually appears closed: but in the horse, as in man, it is frequently found open.

The permanent existence of a rudimentary uterus in the male, accounts satisfactorily, in Weber's opinion, for the presence of a large uterus in the so-called male hermaphrodites of the human subject: such a uterus is of course only the vesicula prostatica, or rudimentary uterus, in a more fully developed state"—(p. 112).

After considering development in reference to organs, tissues, and cells, the work is closed by some interesting remarks on the development of the blood. In order to render the explanations clear, wood engravings are throughout interspersed with the remarks.

We think highly of the practical utility of this supplementary volume. To those who possess Müller's Elements it is indispensable,—to others, who have not this useful work, it will be found most serviceable in giving them at a small expense an insight into the recent progress of physiology. It would be well if this practice of publishing Supplements to standard works on medical science were more frequently adopted: as it is, a large work on an important branch of medical science, is exposed to the risk of the doctrines contained in it becoming obsolete before another edition is required, and it is thus apt to lose its position in medical literature as a work of authority.

A Practical Treatise on the Diseases peculiar to Women; illustrated by Cases, &c. By SAMUEL ASHWELL, M.D. Member of the Royal College of Physicians, &c. 3d edition, 8vo. pp. 772. London: Highley, 1848.

THERE are few medical works which have reached a third edition in so short a period of time as that of which we have now to announce the publication. This is not merely due to the reputation of the author as an obstetric physician, but to the practical character of the work itself. The diseases of females have hitherto formed a sort of appendix to works on practical midwifery; but it is obvious that so comprehensive a subject can be fairly treated only in a distinct volume; and the very rapid sale of two editions of this work furnishes a clear proof of the high value attached by the profession to Dr. Ashwell's labours.

Having already, within a comparatively recent period, given a full notice of the contents of this volume, it is unnecessary for us to reopen the subject. The short space which has elapsed since the publication of the second edition, has not rendered many additions necessary. The size of the volume is therefore but little altered. We can safely recommend Dr. Ashwell's treatise as an admirable guide either to assist the practitioner or to inform the student.

Correspondence.

ON THE CONSUMPTION OF OPIUM IN ENGLAND.

SIR,—In your number of the 16th ult., I observe an allusion to the quantity of opium consumed in England, which is accompanied by a remark or two that it is reported that "the inmates of our workhouses are given to the practice of opium-eating;" and also that "the *so-called* temperance principles may have tended to increase the demand for this drug." In reply, allow me to observe that it is extremely improbable that the inmates of our workhouses should be addicted to this baneful practice; for if there was no other argument against the assumption, the fact of the financial inability of *paupers* must render it all but certain that the expense of procuring this deleterious drug would alone preclude these unfortunate creatures from consuming, in any material degree, so costly an article. Still less is it probable that the spread of "the so-called temperance principles" can in any degree have "tended to increase the demand for this drug;" for I am fully convinced that the very "principles" which go to establish the practice of "temperance," have equally operated to expose the highly objectionable nature of all narcotic substances; and amongst the teetotallers, as a body, you will find a large amount of information as to the physiological actions of all intoxicating agents, which, I regret to say, is not possessed by a very large proportion of medical men, too many of whom are in the habit of using alcoholic liquors without much knowledge, and with even less consideration, of their nature and properties; and I am of opinion that, to the spread of "temperance principles," we are indebted for some of the most striking ameliorations in the health, morals, and social condition of the community. It is to be lamented, therefore, that the medical profession should afford so little countenance to the greatest discovery of modern times—viz. that all spirituous and fermented liquors are unnecessary to persons in health; that they do not strengthen and invigorate the system; and that they may be relinquished altogether, not only without any disadvantage, but with absolute benefit.

THOMAS BEAUMONT.

Bradford, July 17, 1848.

P.S.—I may add, that the true explanation of the enormous consumption of opium is to be found in the almost incredible quantity which is employed by druggists in the preparation of those vile and deleterious compounds which are sold under the names of "Godfrey's cordial," "Dalby's carminative," &c. &c. &c.

CASES OF PLACENTA PRÆVIA AND HOUR-GLASS CONTRACTION.

CASE of *placenta prævia* in which the placenta was expelled by the natural efforts of the uterus, before the birth of the child:—

Mary Cobb was taken in labour on the afternoon of the 24th of February; upon the midwife's arrival she found the os uteri considerably dilated, and an unusual presentation, the precise nature of which she did not understand. After waiting an hour, "something came down" into the vagina, and was expelled by the uterus. She then discovered it to be the placenta.

The head of the child immediately presented, and the labour terminated in an hour after the expulsion of the placenta: the child was still-born. The uterus did not contract well, and I was called in, the midwife thinking there was another child.

Pressure upon the abdomen expelled a great deal of coagulated blood, and the woman recovered without an untoward symptom.

CASE 2.—Hour-glass contraction of the uterus previous to delivery.

On Saturday morning last, July 8th, had been in attendance for some hours upon Mrs. Abbey, when she directed my attention to the unusual state of her abdomen: upon placing my hand thereon, could distinctly feel a decided contraction across the middle of the uterus, leading one to believe that there were two children, one in that part of the organ which was above the umbilicus, and one certainly below, as the head could be felt per vaginam. The neck between the two portions did not seem much thicker than a man's wrist. The pains continued for many hours without much progress; they then suddenly ceased. The head was brought away by the vectis, the body soon following. No hæmorrhage.

The cord could now be traced into the upper part of the uterus (through *the neck*), which now evidently contained the placenta, and which was obliged to be removed, together with some coagulated blood, by the introduction of the hand. It was adherent to the upper and left portion of the uterus. The woman is doing well, although the uterus diminishes very slowly in size, and the contraction in the middle is still distinctly to be felt. Yours truly,

BENJ. DULLEY.

Wellingborough, July 17, 1848.

Medical Intelligence.

ALLEGED IMPORTATION OF CHOLERA.

THE following inquiry was made in the House of Commons on Tuesday evening relative to the alleged importation of cholera:—

Mr. Wyld wished to call the attention of the Government to a statement which appeared in the papers. It was said that the English brig Marion, Captain John Beal, anchored off Malmö on the 8th of July, having taken a cargo of wheat at Cronstadt 14 days before. It was ascertained that the captain had arrived sick on board at Cronstadt, and died with symptoms of cholera; one of the crew had also been taken ill, but recovered again. It was now supposed that that vessel had arrived, or would soon arrive, in this country.

Mr. Labouchere was sorry his noble friend the First Commissioner of Woods and Forests was not in his place, because he was in constant communication with the Lords Commissioners of the Privy Council on the subject, for the purpose of devising means to prevent the arrival of that dreadful scourge in this country, and by which its progress might be arrested.

THE ASIATIC CHOLERA IN RUSSIA.

AMONG the persons attacked by the cholera at Jassy are the Prince Stourdza and all his family. Letters from Moscow of the 3d announce that the cholera has begun to decline in that city. A letter from Konigsberg, of the 13th, states that several inhabitants of the city had been attacked with a violent diarrhœa, bearing symptoms analogous to cholera, and that some had died.

The cholera is rapidly approaching towards Hungary and Bukovine. A letter, dated Galacz, the 24th of June, states—With the beginning of this month the cholera made its appearance here, and increased much about the 12th; the first day after that, 197, the second, 186 persons fell sick, of whom 36 and 32 died in the course of the two days. On the following days the number attacked by the sickness was 230; it was observed that on an average one-third died. On the 20th it raged worse still, and 67 persons have fallen victims daily since then. In the cities where it rages, the people desert their houses and encamp on the open field; thus Giurgewo is entirely depopulated. The sickness reigns likewise at Silistria, Turtukay, Popica, Sistowa, Widyr, and at Werszerow, on the frontiers of Wallachia. Also at Galacz, where it has reappeared since the 15th, and has taken a worse character; up to the 8th of June, 285 persons have fallen sick, and 101 died at Ibrailow, containing a population of 18,000 souls. At Jassy, until the 23d of June, from 31 to 40 daily fell sick, of whom about two died; from that place it has spread all over the country. It is remarkable that the sickness has not been increasing on the side of the Danube, which extends into Bulgaria, except at one place called Maczyn. More remarkable still it is that the sailors on the Danube have been entirely free from it. At Moscow, 1,724 persons have fallen sick, and 728 died between the 13th and 20th of June: besides many other districts visited by the cholera, it is principally the district of Jaroslaw which has been violently attacked by it; likewise the town of Tichwin, in Novgarod, has suffered much. It has just broken out at Nikolajew, in Cherson, and in the quarantine at Odessa, where, since the beginning of May, many lives have been lost in the vessels; the city of Odessa is, however, free from it. In Sweden a quarantine of five days has been ordered to be kept by all vessels which arrive from Southern Finnland and Hangoudd. For this reason the steamers Stollursten and Prince Metternich have delayed their departure for Stockholm.

At Constantinople the cholera continues to make great havoc in all parts of the capital, and also in some villages situated on the Bosphorus.

THE GLOUCESTERSHIRE MEDICAL AND SURGICAL ASSOCIATION.

At a Special General Meeting of the members of the Gloucestershire Medical and Surgical Association, held at Cheltenham, on the 20th day of July, 1848, "to take into consideration the proposals for a measure of Medical Reform, lately published, as resulting from a conference of parties representing the Metropolitan Corporations and the General Practitioners, and intended as the basis of an Act of Parliament for the regulation of the profession," Thomas Wright, Esq. President, in the Chair, the following resolutions were carried unanimously:—

1.—That the Charter granted to the College of Surgeons in 1843, forms an insurmountable obstacle in the path of Medical legislation, and that no attempt to adjust by Act of Parliament the difficulties of this subject can be successful or satisfactory until the injustice perpetrated by that obnoxious measure be done away with.

2.—That the Colleges of Physicians and Surgeons if rightly organized, are quite sufficient for the requirements of the profession in this country, and that the proposed creation of a new corporation for the enrolment of the General Practitioners is uncalled for by any necessity, and that such new institution would be alike injurious to the interests of the profession and the public.

3.—That the parties undertaken to appear on the part of the General Practitioners in the conferences which have led to the proposal of a new corporation, have no title whatever to be considered as representing the views and opinions of that great body of the profession.

4.—That this association pledges itself to oppose, by all means in its power, the adoption of any legislative measures which may tend to perpetuate the injustice inflicted upon the Members of the College of Surgeons by the Charter of 1843.

5.—That a Memorial be forwarded to the Secretary of State, and a Petition be presented to the House of Commons, embodying the foregoing resolutions; and that a Committee be appointed for the purpose of drawing up such Memorial and Petition, and giving publicity to the proceedings of the meeting.

J. W. Wilton, F.R.C.S., Hon. Sec.

CITY OF LONDON HOSPITAL FOR DISEASES OF THE CHEST.

The following gentlemen have been appointed the medical officers of the above charity: — Consulting physicians, Drs. Babington and Jeaffreson; consulting surgeon, Mr. Aston Key; ordinary physicians, Drs. Peacock, Bentley, and Allen Williams.

NUMBER OF STUDENTS IN THE MEDICAL SCHOOLS OF FRANCE AND SPAIN.

It appears from official documents, that the number of medical students in the schools and colleges of France is 1875, of whom there are in the faculty of Paris 800, in that of Montpellier 175, and of Strasburg 77. The remainder are pretty nearly equally distributed among twenty other minor schools in the provinces. In Spain, with a much smaller population than France, the number of medical students is said to be much greater. Thus, in Madrid there are 1100, and in the united schools of Barcelona, Cadiz, and Santiago, there are no less than 400, making a total of 1500 students.

THE PROFESSORSHIP OF SURGERY AT UNIVERSITY COLLEGE.

It is reported that Mr. Arnott, surgeon of the Middlesex Hospital, has been appointed Surgeon to the North London Hospital, and Professor of Surgery in University College.

MEDICAL APPOINTMENTS UNDER THE FRENCH REPUBLIC.

Dr. Archambault of Maréville, has been appointed to succeed Dr. Foville as Director and Medical Superintendent of the Lunatic Asylum of Charenton. The displacement of Dr. Foville, reflects disgrace upon the Provisional Government.

UNIVERSITY OF EDINBURGH.

Dr. Bennett has been elected Professor of the Institutes of Medicine in the University of Edinburgh, in the room of Dr. Allen Thompson, who has been appointed Professor of Anatomy in the University of Glasgow.

ROYAL COLEGE OF SURGEONS.

Gentlemen admitted Members on the 21st inst.:—W. N. Price—R. S. Harvey—T. Leeson—A. B. Jones—C. H. Gamble—E. E. Phippen — J. W. Harper—J. W. Trotter—O. H. Jennings—G. J. Knight—J. Sturdy—T. Limbery.

Admitted on the 24th inst.:—G. W. Peake—D. D. Murphy—G. F. Trimnell—E. J. Lazarus—H. Eales—G. E. Driver—C. C. Piper—R. C. Smyth—T. B. Knott.

STATISTICS OF AMPUTATIONS.

Dr. Fenwick, in an elaborate paper on the influence of age, sex, and other conditions, on the fatality of surgical operations, makes the following remarks respecting amputations.

It will be advisable in persons between 20 and 30 years of age labouring under incurable diseases of the joints, to delay the performance of amputation so long as the strength and other circumstances of the patient will permit, instead of resorting at an early period to the operation, on account of there being but little prospect of a natural recovery. In that time of life which, in amputations for diseased joints of the extremity, is most fatal—viz. from 30 to 50 years of age—we find also, that an amputation succeeds better if the disease has existed from one to five years, than if the operation be performed at an earlier stage of the disease. Thus, of eight cases in which the illness had existed only one year, three died, or one in every 2·6; whereas, of eight who had suffered from the diseased joint from one to five years, only two perished or one in four. Only two cases were operated upon who were above 60 years of age; in both, the disease was of long standing, and in both the operation was successful.—*Edinburgh Monthly Journal*, 1848.

BIRTHS & DEATHS IN THE METROPOLIS

During the week ending Saturday, July 22.

BIRTHS.		DEATHS.		*Av. of* 5 *Sum.*	
Males....	695	Males....	567	Males....	495
Females..	614	Females..	529	Females..	477
	1309		1096		972

WEST—Kensington; Chelsea; St. George, Hanover Square; Westminster; St. Martin in the Fields; St. James .. (Pop. 301,326)	152
NORTH—St. Marylebone; St. Pancras; Islington; Hackney ...... (Pop. 366,303)	232
CENTRAL—St. Giles and St. George; Strand; Holborn; Clerkenwell; St. Luke; East London; West London; the City of London ....(Pop. 374,759)	227
AST—Shoreditch; Bethnal Green; Whitechapel; St. George in the East; Stepney; Poplar ....(Pop. 393,247)	242
SOUTH—St. Saviour; St. Olave; Bermondsey; St. George, Southwark; Newington; Lambeth; Wandsworth and Clapham; Camberwell; Rotherhithe; Greenwich ....(Pop. 479,469)	243
Total	1096

CAUSES OF DEATH.		Av. of 5 Sum.
ALL CAUSES	1096	972
SPECIFIED CAUSES..............	1092	968
1. *Zymotic* (or Epidemic, Endemic, Contagious) *Diseases* ..	390	257
Sporadic Diseases, viz.—		
2. Dropsy, Cancer, &c. of uncertain seat	54	45
3. Brain, Spinal Marrow, Nerves, and Senses	112	120
4. Lungs and other Organs of Respiration	65	80
5. Heart and Bloodvessels	54	28
6. Stomach, Liver, and other Organs of Digestion	65	79
7. Diseases of the Kidneys, &c...	14	8
8. Childbirth, Diseases of the Uterus, &c................	10	10
9. Rhematism, Diseases of the Bones, Joints, &c.	6	7
10. Skin, Cellular Tissue, &c.......	2	1
11. Old Age	34	50
12. Violence, Privation, Cold, and Intemperance	36	8

The following is a selection of the numbers of Deaths from the most important special causes:

Small-pox	31	Paralysis........	10
Measles	15	Convulsion......	51
Scarlatina	90	Bronchitis	28
Hooping-cough..	24	Pneumonia......	18
Diarrhœa	94	Phthisis	140
Cholera	21	Dis. of Lungs, &c.	10
Typhus	70	Teething........	7
Dropsy..........	7	Dis. Stomach, &c.	6
Sudden deaths ..	7	Dis. of Liver, &c.	15
Hydrocephalus..	24	Childbirth	3
Apoplexy........	25	Dis. of Uterus, &c.	5

REMARKS.—The total number of deaths was 124 above the weekly summer average, indicating a very sudden and large increase above the deaths of the preceding week.

METEOROLOGICAL SUMMARY.

Mean Height of Barometer				29·74
" " Thermometer[a]				62·5
Self-registering do.[b]	max.	96·	min.	33·5
" in the Thames water	—	68·5	—	65·8

[a] From 12 observations daily. [b] Sun.

RAIN, in inches, ·41: sum of the daily observations taken at 9 o'clock.

Meteorological.—The mean temperature of the week was 1·5 above the mean of the month (61°).

BOOKS RECEIVED DURING THE WEEK.

Report of the Medical Cases treated in the Liverpool Northern Hospital. By James Turnbull, M.D. &c.

Casper's Wochenschrift, No. 27, July 1, 1848.

Journal de Chimie Médicale, No VII. Juillet.

Annales d'Hygiène Publique et de Médecine Légale, Juillet 1848.

Comptes Rendus, Nos. 1 and 2, 3d and 10th July.

Hygiene of the Navy. Some Suggestions on the Construction and Management of Pumpwells as necessary to the Preservation of Health on board Ship.

Report of the Committee of the Convention of Poor-Law Medical Officers.

⁂ This will be noticed in our next number.

Eighth Annual Report of the Registrar-General of Births, Deaths, and Marriages in England. Folio.

The Philosophy which shows the Physiology of Mesmerism and explains the Phenomenon of Clairvoyance, by T. H. Pasley.

NOTICES TO CORRESPONDENTS.

The letter of Mr. Wetherfield will be inserted in the following number.

Dr. Brookes's communication has been received, and will have early insertion.

Mr. Lonsdale's paper has been postponed until next week.

RECEIVED.—Mr. H. Lee—Messrs. Braddon and White.

Lectures.

COURSE OF SURGERY,

Delivered in the years 1846 and 1847,

By Bransby B. Cooper, F.R.S.
Surgeon, and Lecturer on Surgery at Guy's Hospital.

Lecture XXXIV.

SURGERY OF REGIONS.—CONTINUED.

Thoracic region. Anatomical relations. Sternal region. Congenital malformation—case. Absorption of sternum from abscess—case. Venereal nodes on sternum. Trephining sternum. Infra-clavicular region. Abscesses in. Tying subclavian artery. Seat of aneurism of arteria innominata. Lateral regions of the chest distorted by spinal disease—by empyema. Paracentesis thoracis. Puncturing the pericardium. Dorsal region of the chest. Steatomata. Spina bifida. Distortion of the spine. Diaphragmatic region. Penetrating wounds. Wounds of diaphragm. Superior region of the chest. Abnormal condition of the thymus gland. Fatal character of deeply penetrating wounds in any part of the chest. ABDOMEN. *Importance of its viscera. Anatomical relations. Division into regions. Contents of each region. Internal abdominal fascia. Injuries to the abdomen. Mere contusion of parietes—case. Wounded parietes—cases. Protrusion of viscera. Viscera wounded.*

The Thoracic Region.

The cavity of the thorax is situated between the cervical region and the abdomen: it contains the organs of respiration, and their investing membranes, the pleuræ; the heart with its envelope, the pericardium; and the mediastina with their contents.

The thorax has a direct internal communication above with the neck, and below with the abdomen, for the continuation and transmission of organs from one of these regions to the other.

In the anterior or sternal subdivision of this region, the following are the principal considerations that present themselves to the surgeon:—Being situated precisely in the mesian line, it is very liable to congenital malformations, and is, indeed, sometimes bifid through almost its whole extent, leaving only a soft tissue between, through which the action of the heart is distinctly to be felt.

The bifid formation of the ensiform cartilage is very common; and I have also met with cases in which the structure was so inverted as to form a deep substernal fossa. A gentleman once called upon me complaining of constant disposition to vomit immediately after having taken a meal or drunk a large draught: being in other respects, however, in perfect health. As I was not able to discover from the history of the case any premonitory symptoms that could indicate the cause of the disorder, I was led to examine the abdomen, to ascertain if there existed any tumor or other abnormal condition, which could produce the effect I have described. Upon exposing the person of the patient, I was at once struck with the peculiar form of the termination of the sternum, and I at first thought it might have been produced by a blow, but the patient informed me that it had existed from his birth. From the extent of the depression, and its interference with the functions of the stomach, the case was one of considerable interest, and I therefore sent the patient to my neighbour Dr. Burn, that he might examine him. Dr. Burn agreed with me, that the symptoms could only be attributed to the malformation, although many authors have denied that inversion of the sternum ever produces any effect upon the stomach.

The sternum is sometimes absorbed, from the internal pressure produced by abscess or glandular enlargement within the anterior mediastinum; if the pressure arise from abscess, the matter may ultimately discharge itself, but the tumor may be mistaken for aneurism from the impulse it receives from the heart's action. A medical student once called upon Sir Astley Cooper, to request his opinion upon a pulsating tumor under the sternum, which had been pronounced by several eminent members of the profession to be aneurism of the aorta. Sir A. Cooper soon, however, relieved his fears, informing him that the tumor was nothing more than an abscess in the mediastinum, and that the pulsation depended upon its pressure upon the heart. An incision was immediately made in the skin, and as the matter had already made its way through the sternum, it was readily evacuated, and in three months the patient had perfectly recovered. The remains of the thymus gland may sometimes undergo abnormal change, and pressing upon the aorta and pulmonary vessels, produce urgent symptoms very difficult to diagnose.

Venereal enlargements often occur in the region of the sternum, producing distinct nodes; the specific cause can only be arrived at by an accurate knowledge of the history of the case, or the existence of concomitant syphilitic symptoms, such as sore throat or venereal blotches. Under these circumstances alterative remedies are of course indicated.

To assist nature in the removal of carious portions of the sternum, or to evacuate the pus in abscess of the anterior mediastinum, it is sometimes advisable to employ the trephine; and, indeed, this method of procedure has been recommended by French surgeons for the evacuation of the fluid in hydro-pericarditis.

Fractures of the sternum, and dislocations of the sterno-clavicular diarthrosis, have already been described: it is, however, in this region that the deformities resulting from these accidents would be obvious.

On either side of the mesian line, at the upper portion of the chest, and immediately under the clavicle, is placed a transverse depression, which may be designated the infra-clavicular region. In this space deep-seated abscesses may form, and so surround the subclavian vessels as to render the evacuation of the pus dangerous, unless due precaution be taken: it is very frequently the case, that matter forms in this region in phlebitis resulting from injury to the hand in dissection; and this is usually attributed to the absorption of a morbid poison, but is, I am more inclined to believe, most frequently the result of a peculiar constitutional condition of the individual. It is in this region that, under some circumstances, surgeons recommend the operation of applying a ligature around the subclavian artery for axillary aneurism, instead of securing it above the clavicle, as I have already described. I cannot myself seė in what circumstances this operation can be preferred. I will, however, gentlemen, describe to you the method by which it may be performed. The patient is placed recumbent, and the shoulders somewhat raised by a pillow; the arm on the side of the disease is then brought to a right angle with the body, so as to put the pectoralis major muscle on the stretch. A hollow may then be felt between the upper edge of this muscle and the clavicular attachment of the deltoid; and in the centre of this hollow an incision is to be made three inches in length, commencing at the clavicular attachment of the pectoralis major, and being continued outwards nearly parallel with the clavicle; this incision should only divide the skin and the dense subcutaneous cellular tissue. After the incision is made, the arm is lowered to the side, when from the relaxation of the muscles and skin, the wound may be widely opened, and, as soon as the blood is sponged away, a strong shining fascia is seen at the bottom: it is termed the coraco-costal fascia, and is next to be divided with great caution, when the subclavian vein will be exposed. The vein is to be carefully separated from its fascial connections, and on being gently *drawn* downwards, the subclavian artery itself will be seen. An aneurismal needle armed with a ligature may now be easily passed beneath the artery from below upwards, and the ligature secured.

At the point of junction of the right infra-clavicular with the sternal region, the pulsatory motion communicated in aneurism of the arteria innominata may be detected: this vessel has in some instances been tied for aneurism, but it becomes highly important in such cases to ascertain that the arch of the aorta itself is not implicated in the disease, and this is sometimes not easily determined with certainty. I shall not describe the operation of tying the arteria innominata, until I treat specifically of aneurism, as there are numerous abnormal phenomena, symptomatic of the physical condition of this vessel, which cannot, as in aneurism of the more superficial arteries, be ascertained by external examination alone.

The *lateral regions of the chest* are often rendered unsymmetrical by distortions of the spine, which produce projections on one side, and corresponding depressions on the other. In speaking of rickets, I have already mentioned the treatment to be adopted in these cases. Projection of the ribs on one side may also proceed from a collection of fluid in the cavity of the chest; these cases fall more frequently, however, under the care of the physician, until the surgeon is called upon to perform the operation of paracentesis thoracis to evacuate the fluid. I shall therefore describe this operation to you, gentlemen. The patient may be placed either in the recumbent or sitting posture, according to his constitutional powers, and the trocar is to be introduced in the intercostal space between the eighth and ninth rib, close to the superior edge of the lower, and about two inches anterior to its angle. The object of this choice of position for the opening is to avoid the intercostal artery which runs along the inferior edge of the rib from the angle to the cartilage, and is therefore protected in this locality, while posterior to the angle no certain point can be indicated in which there is not the liability to injure the artery.

Puncturing the pericardium in hydro-pericarditis has been sometimes recommended in the left intercostal space between the third and fourth ribs. The opening must be made two inches from the sternum, for the purpose of avoiding the internal mammary artery. This is an operation but rarely had recourse to, in consequence of the great difficulty of ascertaining with any certainty the actual presence of fluid within the membrane, and from the danger of wounding the heart, if none be present. I defer speaking of the surgery connected with the mammary region, until I treat of the diseases of the breast, which in itself constitutes so important a subject as to deserve distinct consideration.

Connected with the ***posterior or dorsal region of the neck***, there are but few points of surgical importance, as the only structures entering into its composition are the cutaneous and muscular coverings to the posterior extremities of the ribs and dorsal vertebræ, and that portion of the spinal marrow contained within them. The subcutaneous cellular tissue, from its laxity to allow of the free motion of the scapulæ, and the muscles belonging to them, is frequently subjected to a morbid growth of fat, constitituting steatomatous tumors; and in this situation they are frequently so adherent to the fascia, as to require in their removal careful dissection from that tissue: to secure the healing of the wound, the upper extremity on the affected side should be confined to the trunk, so as to prevent motion from interfering with the reunion.

The vertebræ of this region are sometimes affected in children by the disease termed spina-bifida: this abnormal condition results from an arrest in development, and not from actual disease. The deficiency in nutrition is found principally in the laminæ of bone constituting the arch of the vertebræ, which not uniting posteriorly to join the spinous process, the medulla spinalis is at this point unprotected, and protrusion of the spinal cord and membrane results. This condition is more frequent, however, in the lumbar than in the dorsal region. Sir Astley Cooper many years ago recommended puncture of these tumors for the evacuation of the fluid they contained, and in some few cases a permanent cure has been effected by this operation, although the statistical accounts of its results cannot be said to lead to a favourable prognosis. The distortions of the spine in this region in case of rickets, is productive of great alteration in the form of the chest, appearing as if diminishing the capacity of that cavity, but in point of fact a compensating influence is generally in operation to maintain the actual dimensions of the space necessary to the free action of the lungs. To prove how much the position of the ribs is accommodated to this condition, you will find that if a lung becomes adherent to the mediastinum as the result of pressure, from an accumulation of pus within the pleura, however the ribs may have been projected by its presence, soon after the fluid has been evacuated they become depressed so as to present a convexity inwards, to fill up the vacuity which the adherent lung is no longer capable of occupying.

The inferior or diaphragmatic region of the chest appertains much more to internal diseases than to physical injury; it may, however, be the subject of lesion from penetrating wounds, in which the viscera of the chest or abdomen, or both, may be implicated. This accident is obviously to be ascertained only by the train of symptoms resulting from the altered junction of the organ. The diaphragm may sometimes be ruptured by a blow without any external lesion: distension of the abdomen from any cause would of course produce a liability to this accident.

A patient was brought into Guy's Hospital who had received a severe blow on the abdomen, unattended, however, by external wound; there was no collapse, but he complained of severe cramp and spasm-like kind of pain deeply seated in the epigastrium, attended with a short snatching kind of breathing, as if a rib were broken, which was considered, from his symptoms, to be the case. The dresser, Mr. Day, applied a bandage around his thorax, which gave him considerable relief; he was also bled, and small doses of tartarized antimony, combined with a neutral salt, were exhibited. The patient remained much in the same state for about ten days; he then became the subject of occasional sickness after eating; his countenance was anxious, and he died three weeks after the accident. Upon a post-mortem examination, it was found that the diaphragm had been ruptured on the left side, extending from its muscular into its tendinous structure; the stomach had also become adherent to the edges of the opening, which accounted for the sickness.

Owing to the contiguity of the pleuræ to the upper, and that of the peritoneum to the under surface of the diaphragm, inflammatory attacks frequently extend themselves from one of these splanchnic membranes to the other, producing great difficulties in the diagnosis; these have, however, to be contended with by the physician rather than the surgeon.

The superior boundary of the chest is entirely osseous, and constitutes an opening for the transmission of organs, the important functions of which are in great measure secured by the solidity of the circumscribed opening, and by the peculiar arrangement of the cervical fascia, which is continued from the region of the neck into the thorax. The chief surgical points relating to this locality have already been mentioned in describing those of the supra-sternal fossa; it may, however, be remarked, that in children the thymus gland becomes sometimes abnormally enlarged, extending upwards in front of the trachea, occasionally even as high as the thyroid gland. If, under these circumstances, it becomes necessary to perform the operation of tracheotomy, great difficulty would be experienced from the presence of the abnormal growth; indeed, owing to the shortness of the neck and comparative depth of the trachea in young children, laryngotomy should always be preferred to tracheotomy wherever it is admissible.

Any reference to the pathology of the chest beyond that I have already made in describing the injuries it may sustain in fracture of the ribs, would, I believe, gentlemen, somewhat exceed my province; for the changes produced in the function of the organs it contains, by the pressure of effusions, and the mode of obtaining a diagnosis by auscultation and percussion, are subjects that belong especially to the physician. Very similar phenomena result, however, in aneurism of the aorta; but this is a subject to which I must again refer in its proper place. Deeply penetrating wounds in the chest are generally so fatal in their character, owing to the vital importance of the organs exposed to injury, that death, particularly in wounds of the heart or aorta, is almost instantaneous.

THE ABDOMEN.

No region of the body possesses equal interest with this in the eyes of the surgeon. The number, magnitude, and great importance of the organs contained in the cavity of the abdomen,—their susceptibility to morbid action,—their extensive sympathies,—the varying and complex phenomena that attend their different diseases,—the frequency and danger of injury to them,—and the importance and difficulty in operating in this locality, all combine to command the strictest attention on the part of the medical practitioner.

In a physiological point of view we should be almost justified in including the thorax with the abdomen under one common name and description. In mammalia, it is true, the diaphragm constitutes, for the mere anatomist, a definite boundary between the two cavities, but to the physiologist and comparative anatomist this separation appears arbitrary and incomplete, for not only does the skeleton possess no traces of this boundary line,—not only, moreover, do we find the separation less and less complete in other classes of the vertebrate animals (so that in many of them the lungs and heart are in immediate contact with the organs of digestion),—not only do we find in all animals an uninterrupted continuity in part of the viscera of the two regions, but, finally, we notice that the very partition which in the living man separates these cavities, does itself in reality belong equally to both, and is equally subservient to their respective functions. Taking, then, this view of the subject, which, indeed, physiology so amply warrants, we might advantageously contemplate the hollow of the trunk as one great visceral cavity, considering all its parts and organs, its apparatus of sensibility, of secretion, and even of motion, as all alike concerned in the one great purpose of *maintaining the integrity of the blood;* for while the viscera which more particularly belong to the lower compartment regulate the renovation of that fluid with regard to *quantity*, constantly repairing the waste which occurs in assimilation and secretion, those of the upper compartment—the lungs especially—have the function of renewing that peculiar *quality* of the blood by which it is rendered an appropriate source of vitality to the whole living organismus. It is interesting, also, in connection with this general view of the subject, to compare the mechanical contrivances in the upper and lower portions of this great cavity,—to notice how differently they are constructed in order to facilitate the action of the different organs which they respectively contain, and to contrast the rigid walls, and almost uniform capacity of the one, with the yielding parietes and distensible cavity of the other,—the thorax being comparatively limited as to the quantity of air it is destined to receive in the function of respiration, while the abdomen is capable of adapting itself both to the varying quantity of food ingested, to the distension in gravid uterus, accumulation of gas in the intestines, fluid in ascites, and in retention of urine.

The abdomen, separately considered, is placed between the thorax and the lower opening of the pelvis; it is bounded above by the diaphragm and the four inferior ribs, to which that muscle is principally attached; below, by the ossa innominata and the muscles that fill up the pelvic openings; behind, by the lumbar vertebræ and muscles of the loins; and laterally by the four inferior ribs and abdominal muscles. Its external surface presents an oval form, and anteriorly as well as posteriorly, it is symmetrically divided by a raphe, which is in no part of the body more distinctly marked than in this region. The abdomen is convex on its anterior surface to an extent differing according to the various epochs of life, and subject to changes from the condition of its external organs.

This cavity is naturally divided into an anterior, two lateral, and a posterior aspect; but for physiological, pathological, and surgical purposes, and to enable us, indeed, topographically to describe accurately the relative position of its contents, it has been found useful arbitrarily to subdivide it into the following regions: first, by drawing a line from the extremity of the last rib on one side to that on the other; and a second line from the anterior and superior spinous process of the ilium to that on the opposite side. Thus we divide the abdomen into three distinct portions, which must not be considered as a superficial division only, but as extending in a continuous horizontal plane immediately through the cavity. The space between the upper line and the chest is termed the *epigastrium*, and contains the principal organs of chymification and chylification. The intermediate or central space is termed the *umbilical region*, and contains a large proportion of the intestinal canal and the kidneys; while the lower space, termed the *hypogastrium*, lodges and protects the remainder of the intestines, part of the urinary organs, and the internal organs of generation. Even this arrangement has not, however, been considered sufficiently definite to localize with precision the various organs, and a further subdivision is resorted to, by drawing a vertical line on either side, from the junction of the cartilage of the eighth with the seventh rib downwards, to a point slightly external to the spine of the pubes. These two lines necessarily subdivide each of the regions already spoken of into three parts: the superior or epigastric region is thus subdivided into a central portion, termed the *scrobiculus cordis*, and two lateral, termed the right and left *hypochondriac* regions. The middle region, in the centre, retains the name of *umbilical*, but its lateral portions are called the right and left *lumbar* regions. The inferior division, or hypogastrium in the centre, is distinguished as the *pubic*, while its lateral portions are termed the *iliac* regions.

Such a subdivision of a continuous surface may at a first glance appear useless and arbitrary; but a little reflection will shew how much the diagnosis will be facilitated in diseases of the abdominal viscera by these means, and also how advantageous it must be to the surgeon in contemplating the extent of injury inflicted by penetrating wounds, and in performing the numerous operations that appertain to the abdomen, to have the various viscera thus localized, as it were, externally.

Between the muscular parietes of the abdomen and the peritoneum is placed a fascia, which may be designated the internal abdominal fascia; the different parts of this membrane have, however, been named according to the muscles with which it is in contact; but I consider this plan as productive of considerable confusion.

This abdominal fascia is projected from the interior with every vessel and nerve that perforates the walls of the abdomen: the spermatic cord in the male, the round ligament in the female, the crural vessels, are all furnished with prolonged sheaths of this membrane. which tend to constrict the openings by which these structures issue from the abdomen, and by this constriction prevent the protrusion of the viscera themselves from their natural cavity; but whenever or wherever such a protrusion occurs, the protruding viscus is invariably covered by this fascia—an anatomical fact which is highly important, from the relation it bears to hernia.

I shall now enter into the consideration of the effects resulting from the wounds and injuries to which the parietes of the abdomen are obnoxious, and shall, in conformity with the general usage of authors upon this subject, divide it into the following heads:—1stly, Simple contusions of the abdominal parietes; 2dly, Wounds of the parietes; 3dly, Wounds combined with protrusion of the viscera; 4thly, Wounds of the parietes and viscera; and lastly, Laceration of the viscera without solution of continuity of the parietes.

In the first class of injuries, viz. simple contusion, no effect is usually produced beyond the mere pain inseparable from the accident, requiring nothing more than rest and strict dietetic observance to restore the patient to health. Not that this fortunate result always occurs: in some few cases, indeed, it is authentically recorded that a slight blow of the epigastrium has caused immediate death without any apparent cause being discovered upon post-mortem examination. In such cases death has been attributed by some pathologists to an effect produced upon the centre of the great sympathetic nerve, owing to the relaxed condition of the abdominal muscles, which were unprepared at the moment to offer protective resistance to the applied force. In other cases a condition of collapse results, which may render it extremely difficult to form a just diagnosis of the extent of the injury sustained. Under such circumstances it is right, gentlemen, to withold your decision, both as to treatment and prognosis, until the reaction has occurred; and perhaps it may be necessary to administer warmth or even slight stimuli to the patient, to produce the desired effect; and only upon the early restoration of reaction, and the absence of relapse, can the surgeon judge whether the injury consist in simple contusion or is complicated by internal lesion. If, when reaction takes place, the pulse denotes inordinate force, and the temperature of the body is abnormally raised, active antiphlogistic means should be had recourse to, to prevent the liability to subsequent peritonitis, which is as much to be dreaded as the immediate effects of the injury. Abstraction of blood, rest, and a perfectly flexed state of the abdominal muscles, are the means to be employed to prevent this tendency to inflammation; for it must be considered as a serious error on the part of any surgeon to permit in such a case inflammatory symptoms to manifest themselves, and be compelled to employ as a remedy those means which he ought to have used as a preventive. The immediate effects produced by a blow will depend in great measure upon the particular region in which it has been inflicted, and the disturbance to the functions of any organ in that region would sufficiently constitute the diagnosis, and indicate the proper treatment.

Laceration of the abdominal muscles may occur from a blow on the abdomen: blood may be extravasated, or subsequent abscesses may result; each of these effects would necessarily lead to protracted surgical treatment, the diagnosis of the nature of the injury being formed from the concomitant symptoms which occurred.

2dly. When the parietes of the abdomen are wounded either by laceration or incision, but the wound is not attended by the protrusion of viscera, there is little difference in the treatment than that already recommended, excepting that in the lacerated wound the parts are to be supported so as to diminish the extent of surface to be healed by granulation; while in the incised wound the edges are to be brought into perfect apposition, and maintained by suture, to promote the rapid adhesion of the surfaces; but in both cases the abdominal muscles must be kept perfectly relaxed. It is very important, in wounds of the abdomen, to diminish the extent of the cicatrix as much as possible, as, if it is large, the parietes of the abdomen are proportionably weakened, and the patient rendered liable to subsequent hernia. In wounds of the abdomen inflicted by a cutting instrument, it is often difficult to ascertain whether any internal viscus is injured: the surgeon should, however, avoid exploration by the probe, as he may inflict more injury than had been sustained in the original accident. If, however, from collapse or any other urgent symptom, it appears probable that the intestine is wounded, the edges of the wound should not be secured with great exactness, but a sufficient opening left to admit of the exit of fæcal matter; abstaining also from the use of purgatives, although other antiphlogistic means may be required after reaction has once been completely established. If it should prove that the intestine has not been injured, the external wound, which was at first intentionally left partially open, should be closed, and reparation promoted as rapidly as possible.

A sailor was admitted into Accident ward in 1836, in consequence of an incised wound he had received while "skylarking" with a shipmate. The wound was of three inches in extent, situated in the right iliac region, and, upon examination, it seemed not to have opened the abdominal cavity. The patient, however, being in a state of partial collapse, probably from loss of blood, the edges of the incision were not immediately brought into very close adaptation. Reaction, however, soon took place, and immediately after the bowels had been opened, without any indication of their having been injured, the wound was completely closed, and it healed most rapidly without the occurrence of a single bad symptom.

A drover was admitted in Stephen's ward about five years ago, who had been gored by an ox, the horn having entered just below Poupart's ligament, and extended three or four inches into the abdominal parietes. The patient was at first collapsed, and he was obliged to have stimuli before reaction took place, which being established, antiphlogistic remedies were administered, and poultices and fomentations were applied to the wound. The latter was a long time granulating, in consequence of repeated abscesses; but he ultimately recovered.

3dly. When the viscera protrude through the wound in the abdomen, a new consideration arises as to the fitness of the protruded viscus to be returned into its natural cavity: it is necessary, therefore, to examine whether it is wounded by the instrument which produced the injury in the abdomen, or whether it has undergone any change during the period it may have been exposed to the influence of external agents, and whether it be constricted, from the smallness of the opening through which it has protruded. Let us suppose that the intestine has not been penetrated, and that it is in a fit state to be returned to its natural situation. The restoration should be effected as quickly as possible, the wound through the parietes being enlarged, if necessary, to facilitate the reduction of the protruded part. The edges of the wound are then to be brought together and retained by suture; then treating the accident as in the second class of injuries to the abdomen, to which it is, indeed, reduced. Should any doubt exist in the mind of the surgeon as to the propriety of returning the intestine into the abdomen, either from its altered colour, abnormal coldness, loss of elasticity, or any other prominent change in its physical or vital properties, the surgeon has then duly to weigh in his mind the probable chances of the reparation of the part, considering equally the constitutional powers of the patient and the actual conditions of the parts themselves. If, upon mature reflection, any doubt should still remain on his mind, I think it better, as a general principle, to return the intestine into its cavity, as it is there placed under the most favourable circumstances for the restoration of its vital energies.

Caution must, however, be observed when the return of the intestine is determined upon, care being taken to leave the injured portion as near as possible to the wound through the parietes; so that, should nature fail in her attempt at reparation, an exit for the contents of the intestine may be secured. Such a difficulty in determining on the propriety of returning a morbidly changed viscus into the abdomen often occurs in the operation for hernia; and I have frequently experienced it, but can faithfully say that I have scarcely ever had to regret the determination to return the intestine, although frequently to regret having left it in the hernial sac. After the intestine has been returned without any signs of collapse, but, on the contrary, perhaps followed by symptoms of increased arterial action (indicated by hard or small pulse), leeches should be applied upon the abdomen, and sudorifics and very small doses of calomel with opium prescribed; purgative medicines should, however, be avoided for several days, as a perfect state of rest of the intestine is most likely to promote restoration to its natural condition.

There are many cases on record of viscera which had protruded through incised wounds of the abdomen, being returned into their natural cavity without any urgent symptoms having supervened. I have met with several such cases in my own practice; and the late Mr. Morgan used to relate a case of a boy at Tottenham, who received a wound in the abdomen, through which the intestines were protruded: the child placed the protruded viscus in his pinafore, and walked some distance to a surgeon, who, having carefully cleansed the bowel from a quantity of adhering dust, replaced it in the abdomen, sewed up the wound by the twisted suture, and in a comparatively short time restored the boy to perfect health.

When the omentum only is protruded, if it has been exposed sufficiently long for adhesion to have taken place at the internal edges of the wound; or if, from the smallness of the opening, there is any difficulty in returning the protruded portions; or, thirdly, if the omentum has undergone any abnormal change, I consider it better that it should be left to slough, rather than that it should be returned into the abdomen; and I have seen cases terminate most successfully under this plan of treatment, adopting the same means as have already been described to prevent subsequent peritonitis. When it is decided to leave the protruding omentum out of the abdomen, poultices should be applied to it; and when it is in a complete state of slough, a ligature may be placed around it, to promote separation; but before the disorganisation is complete, it is better not to remove it either by ligature or knife, as the former may tend to produce peritonitis, and the latter to cause hæmorrhage.

Such accidents as I have mentioned have been known frequently to occur, in which the peritoneal cavity has been opened, resulting both from accident and operation, and without any ultimate injurious results: hence it has been inferred by some that the great danger generally attached to lesion of the peritoneum is overrated. The surgeon should, however, hesitate before he arrives at such a conclusion; learning, from the result of the operation for strangulated hernia, how much more frequently the cause of failure depends upon subsequent inflammation of the peritoneum than upon any morbid change which the intestine itself may have undergone. It is true that in the removal of the ovaria—an operation that has lately been frequently performed — many cases have proved successful, notwithstanding the extensive lesions of this membrane; but, in my opinion, these results involve the question whether the peritoneum has not undergone, from the pressure of the tumor, such morbid alteration as completely to change its specific character, and to prevent that accession of inflammation to which the healthy peritoneum under injury is so prone. It sometimes happens that cases of protruded viscera through wounds in the parietes of the abdomen prove fatal when the immediate manifestations of injury are not sufficient to account for such a termination. In these cases death is no doubt generally the effect of concomitant injury to more distant vital parts, as the following instance will illustrate:—

About two years since, a man was brought into Guy's Hospital, in consequence of very severe injuries which he had received while in the act of stealing lead from the top of a brewery, from which he fell. Upon examination, it was found that he had torn open an old scrotal hernia, and that a considerable quantity of intestine had protruded, and had remained exposed for nearly an hour; one of his thighs was also broken, and his left shoulder dislocated. The intestine was immediately returned into the cavity of the abdomen, and the edges of the wound brought together by the uninterrupted suture; the fractured thigh was placed in splints, and the dislocated shoulder reduced, which was accomplished with much more than usual facility, in consequence of the state of collapse of the patient from his abdominal injury. His pulse being feeble, the surface of his body cold, and his respiration difficult, julep ammon. was administered, and bottles of hot water applied to his feet, for the purpose of producing reaction, which was no sooner effected than pain in the abdomen came on, for which leeches were applied, and calomel with opium given, for the purpose of allaying his pain; all the symptoms, however, rapidly increased in urgency, and in fifteen hours after his admission he died.

Upon examination of his body, it was found that he had been the subject of severe peritonitis, demonstrable from the quantity of coagulable lymph which was poured out; the portion of intestine which had protruded had not been ruptured, nor were there any signs by which it could be known from the rest of the intestines, but from a slight degree of thickening, probably from its frequent descent into the old hernial sac. The diaphragm was found ruptured, and a considerable portion of the stomach protruded into the chest—a circumstance of which there was no suspicion from the symptoms during life.

CLINICAL LECTURE
ON
PARALYSIS,

Delivered at King's College Hospital,

BY R. B. TODD, M.D. F.R.S.
Physician to the Hospital.

(*Reported by* Mr. S. J. A. SALTER, A.K.C.)

LECTURE II.

IN my last lecture, gentlemen, I stated to you the principal causes capable of producing paralysis, and called your attention to three cases then in the hospital, in one of which the paralysis depended on the presence of lead in the system; in the second it was caused by a local injury to the nerves of the upper extremity by a fractured clavicle, or rather the treatment which was adopted in curing it; and the third was one of hysterical hemiplegia. All of these have now left the hospital, one much improved, the second but slightly so, and the third quite cured.

I purpose now to speak of some cases of paralysis which have their origin in disease of the brain. A prominent feature of this kind of paralysis is its one-sidedness, constituting that which is called *hemiplegia*, or paralysis of one side of the body from disease of the opposite half of the brain.

The first case to which I shall refer is that of Thomas Hardwick, aged 49, a smith, of temperate habits. This man was first attacked eight weeks ago with pain in the region of the left parietal bone; this was followed by dimness of vision, and often double vision. These symptoms continued a month, and he then had what he calls *rigors*, affecting the right arm and leg, which were probably convulsive movements of those limbs. These, he says, "turned to erysipelas," and were followed by loss of power in this leg, and afterwards in the arm.

On his admission he was suffering from pain in the left side of the head; there was loss of power, affecting both the right arm and leg, and loss of sensation in the arm; the loss of power was greater in the arm than in the leg. In walking, he drags the right leg at the same time that he lifts it from the ground, by inclining the trunk to the opposite side.

The contrast between the movement of the paralysed leg in this case and in the case of hysterical paralysis to which I referred in the last lecture, is very striking. In this case the leg is lifted from the ground; but in the hysterical case it is dragged along as if dead, without the slightest attempt to lift it. As both patients are now in the house, you have abundant opportunity of observing and contrasting the different kind of movement in each.

The paralysed limbs exhibit considerable rigidity of the muscles; this becomes particularly obvious in the arm when an attempt is made to extend the forearm upon the arm, the biceps becoming rigid, as if it resisted extension. This resistance on the part of the biceps to the complete extension of the forearm upon the arm is often the only mark of any irritated condition of the nerves or muscles of the palsied limb. While the limb is quiescent, the muscles are soft and relaxed; but the moment extension is attempted, the biceps becomes firm and resisting. The extending force excites the biceps by reflexion, when there is even the slightest excitement in the nerves of the affected limb.

There is also in this case palsy of the right side of the face, denoted by hanging of the cheek, and by paralysis of the buccinator muscle. The movements of the eyes present a very peculiar appearance: they are constantly directed downwards, with a convulsive action of the depressing muscles. When desired to open his eyes, or direct them in any way, by means of a strong voluntary effort, this movement of the eyeballs becomes more excited, and is accompanied by very marked convulsive twitchings. In consequence, no doubt, of these irregular movements, vision is sometimes double; the pupils are unequal, the right being larger. These symptoms clearly indicate some irritative disease affecting the third pair of nerves, either in their course or at their origin. You will observe that in this case the power over the orbicular muscle of the eyelids has not been at all impaired, indicating that the *portio dura* of the seventh pair of nerves is untouched. In general, in cases of hemiplegic paralysis, the tongue deviates to the paralysed side. This case was an apparent, though not a real, exception to this rule; for the tongue deviated to the sound side. On careful examination, however, it was found that certain projecting teeth in the lower jaw diverted the course of the tongue from its ordinary channel into a deviation to the right side; and the case illustrates the remarks which I made on this subject in my last lecture.

Now the points in this case which served for the foundation of a diagnosis were, first, the existence of pain; next, the occurrence of paralysis on the opposite side to the pain; and, lastly, the irregular movements of the eyeballs, and the double vision.

The existence of fixed pain in the head in general indicates intra-cranial irritation. Pain in the head may be situate in the course of some of the nerves of the scalp, over the brow, or across the forehead, or in the temple, or spreading upon the parietal bone, or at the vertex. Pain in these situations is apt to shift, or intermit, or sometimes it gives the sensation of a nail being driven into the head—*the clavus hystericus.* When pain exhibits such characters as these, it is not indicative of any mischief going on within the skull, but rather is symptomatic of deranged digestion, or of some constitutional disturbance, or of a hysterical or hypochondriac state, or it is the result of debility or exhaustion; but where the pain is fixed in its situation, as in this case, and varies only in intensity, and not in locality, it can only be referred to intra-cranial irritation, such as probably would arise from disease of the membranes, or of some superficial parts of the brain. Disease of the corpus striatum, or of the optic thalamus, does not generally produce pain, which is distinctly referrible to a particular spot. When disease of these parts occurs, it either causes no pain at all, or a dull heavy pain, which the patient cannot localise; unless, indeed, the pia mater in connection with them be extensively diseased. If the dura mater, or the arachnoid, or the pia mater, become the seat of disease, then pain is produced, and the patient refers it to a point which very nearly corresponds to the site of the morbid lesion: hence such pain as our patient suffers may be looked upon as indicating rather a superficial than a deep-seated lesion.

Another important symptom under which this man laboured was dimness of vision, which also assumed the form of double vision. This symptom, although it often occurs independently of cerebral lesion, ought, nevertheless, to excite the suspicion of such lesion, and more especially if there be at the same time any affection of the muscles of the eyeball.

The paralysis in this case is of that kind which generally depends on cerebral lesion, its one-sided character denoting a cerebral rather than a spinal origin: at the same time, you must bear in mind, as I pointed out in my last lecture, that a similar form of paralysis may take place, as the result of hysteria, where there is no appreciable lesion at all. In this case it is plain that the paralysis is not of the hysterical kind, because the face is affected, and also because the mode of moving the leg is essentially different from that of the hysterical palsy; the patient is also of the male sex, which is very much less liable to these hysterical affections.

The parts of the brain, the lesion of which is most apt to produce hemiplegia, are the corpus striatum and the optic thalamus, and the most frequent lesions of them are softening, a clot, or abscess. It is remarkable that lesion of the optic thalamus should produce nearly, or precisely, the same effects as lesion of the corpus striatum. This is probably explained by the intimate union of the two bodies, so that neither can be affected without the other participating in the morbid influence; but if the optic thalamus be the part diseased, the corpus striatum will suffer more in consequence than the optic thalamus would if the corpus striatum were the seat of lesion, because of the great size and extensive connections of the optic thalamus, and the smaller size and more limited connections of the corpus striatum. Disease also in the immediate vicinity of these parts will cause paralysis; but if the lesion be situated quite near the surface of either hemisphere of the brain, and be not of such a nature as to produce pressure, there will be no paralysis.

A clot, or an abscess, or a tumor, in the centre of the centrum ovale, will not produce paralysis if it do not cause pressure, or interfere materially with any of the fibres of the corpus striatum.

Another condition capable of producing hemiplegia is inflammatory or other disease of the membranes. The dura mater cannot suffer long from inflammatory disease without implicating the arachnoid or pia mater. When you get inflammation of these membranes, you have effusion of lymph or of pus, which, as it increases, causes pressure on the surface of the brain, which is then extended to the corpus striatum and optic thalamus, and thence results the paralysis.

If some of the deeper-seated parts, such as the crura cerebri, are affected, we also have paralysis; because the crura cerebri, as the bond of union between the corpora striata and spinal cord, form a part of the great centre of volition. Disease of the cerebellum or its crura, provided it be deep-seated, will also produce hemiplegia; this is probably due to the connection which is formed between the hemispheres of the cerebellum and the fibres of the pyramids in the pons Varolii.

Now, in the case of Hardwick, the first symptoms were those of irritation, producing convulsive movements of the right side; and these were followed by incomplete paralysis of the limbs. This slow access of the paralysis, following symptoms of irritation, gives us some clue to the nature of the exciting lesion. These phenomena are precisely such as one would expect, where the lesion consisted in inflammation of the membranes of the brain, accompanied by effusion of lymph. In the first stages of the inflammatory affection you would have irritation, and consequently convulsive movements; and in a later stage, where the lymph came to be effused, we should have pressure and paralysis; but as the pressure was not excited immediately, but only indirectly, upon the centre of volition, the paralysis would be incomplete.

A very interesting and important feature in the paralysis in this case is the accompanying spastic or rigid state of the muscles. This rigidity, according to my experience, if it supervene early in the paralytic seizure, or simultaneously with the paralysis, indicates irritative disease within the cranium. It is not uncommon, however, to meet with cases in which there has been very complete paralysis, with perfect resolution of the muscles; but after a time these muscles slowly become rigid, the fingers become flexed, and sometimes firmly pressed against the palm of the hand, the hand bent upon the fore-arm, and the fore-arm upon the arm, with a tense and spastic, although wasted condition, of the muscles. This late form of muscular rigidity you must carefully distinguish from the early one, inasmuch as the former indicates that there has been loss of substance in the brain, and that the cicatrix is undergoing contraction.

You will meet, in practice, four different conditions of the muscles in paralytic limbs in different cases. The first differs scarcely at all from that of the healthy muscles; the muscles exhibit, perhaps, less firmness, and are less excitable by the galvanic stimulus, when the paralysing lesion is not of an irritative kind. A second condition presents complete relaxation of the muscles: they are soft, imperfectly nourished, and waste with wonderful rapidity; so that under a paralysis of a few days' duration the size of the limb experiences a very marked diminution. In these muscles there is very little excitability to the galvanic stimulus—sometimes almost none. This is the most complete condition of paralysis, in the strict sense of that term, and it is sometimes accompanied with phenomena which denote a depressed state of the general nutrition of the limb: the pulse in the large arteries of that side is weaker; there is sometimes more or less of œdema, especially if the limb be kept in a dependent position; and the heat of the limb is imperfectly maintained. Some of these cases ge well; others continue paralysed, although the general health of the patient improves, and the muscles become wasted to mere membranes; others, again, continue paralysed, but the muscles gradually assume a condition, the third condition to which I wish to call your attention—one of contraction and rigidity, the flexor muscles always exhibiting this state to a greater degree than the extensors.' The muscles are still wasted, but they are stretched like tense cords between their origins and insertions. The biceps in the arm, and the hamstring muscles in the thigh, project beneath the skin like tense membranes. This condition is due to a chronic shortening of the muscles themselves: they are tense, but not firm nor plump; it is undoubtedly a form of muscular atrophy, and is accompanied with feebleness of circulation and coldness of the limb. A fourth condition is illustrated by our present case. The muscles suffer very little, or not at all, in their nutrition; the paralysis is seldom complete; and the muscles are either constantly firm and rigid, or become so on the slightest movement of the limb. In these cases there is more or less of an exaltation of nutrition,—the circulation in the limb is vigorous, and its heat is not below the standard of the other limb; and it is frequently more excitable by galvanism than the corresponding muscles on the other side.

I must beg your particular attention to these various states in which the muscles of paralytic limbs are found. You may draw practical inferences from them of great value in treatment: when the early condition of rigidity is present your patient will bear local bleeding or local counter-irritation, or both, with advantage; and will derive benefit from them, provided other symptoms do not contraindicate them. The state of complete relaxation affords no indication for the use of antiphlogistic measures, but on the contrary, in many of the cases in which it occurs it should be regarded as affording a contrary indication. As to that condition in which the muscles assume the contracted state gradually, and some time after the paralytic seizure, I wish much it were in my power to suggest some means of arresting it Some slight benefit is gained by subjectin the limb to frequent extension at state periods in the day: this I believe will retar the contraction, so long as it is diligentl persisted in; but when it has been laid asid the contraction will go on just as if the e tension had never been employed. The ca is analogous to that of stricture in the ur thra, or the cicatrix after a burn, which e hibit a remarkable tendency to contra requiring in the former case the long-co tinued use of the bougie, and in ma instances its frequent employment throughout the entire life of the patient. In both instances, indeed, I believe I am correct in saying that surgeons have hitherto failed in finding any means to check effectually the tendency to contraction.

I may add that long-continued and forcible extension of the limb gives rise to considerable pain when the muscles are in the state of chronic contraction—pain so severe that the patient cannot bear the extension for any length of time.

But to recur to the case of Hardwick. From the various symptoms I have detailed to you I have been led to the following diagnosis in this case — namely that the lesion is of an inflammatory kind, — that it is principally and primarily meningeal; so far I can speak without hesitation, but in determining the precise locality more difficulty is experienced; I have no doubt, however, that it is so situated as to affect the optic and third pair of nerves; and from the seat of the pain, which the man has always referred to the left parietal bone, I should assign as its locality the dura mater, and the other membranes in the vicinity of the anterior and inferior angle of that bone; thence the disease has extended perhaps along the fissure of Sylvius, and thus it has come to involve the optic and third pair of nerves. It must be obvious to you, however, that the disease might readily have set up first in the pia mater, and may have involved the origins of these nerves through some other parts of the brain, producing precisely the same train of symptoms.

The treatment adopted in this case has been chiefly counter-irritation to the scalp by tartar emetic ointment, and the use of mercury. These remedies have produced no good effect; the patient's intelligence and memory are becoming affected, and I fear that the hemispheres of the brain are getting involved, either by extension of disease or by pressure. It is not improbable that ere long we shall have the opportunity of ascertaining how far the diagnosis is correct or otherwise.

The second case is that of Catherine Williams, who is aged, as she says, 50, but looks at least 65: she has been long addicted to habits of intemperance. She states that she has been suffering from pain of the head for four months, and also from pain in her limbs: the pain in the head is not at all fixed, and it has also been accompanied by drowsiness. She is a thin, pale, ill-nourished woman, and looks like one who drank more than she ate.

The week before her admission she complained of severe pain and numbness in the left hand and arm: this was probably of the nature of a subjective sensation, due to an affection of the nerves at their central extremity, and not at their periphery. Affections of this kind not unfrequently depend on disease of the brain; sometimes, however, they are confined to the trunk of the nerve, and are strictly of a neuralgic character. In this case, however, the headache and the drowsiness distinctly point to a cerebral affection.

Previous to her present attack coming on, it appears that she had been working very hard, and drinking in proportion. One morning, whilst at breakfast, she suddenly lost the use of the left arm and side of the face, and, on attempting to get up, fell to the ground: in the evening, the leg on the same side became paralysed; the paralytic seizure was not accompanied either by stertor, or by loss of consciousness. On admission, two days after this seizure, we found this woman completely hemiplegic on the left side, with the most perfect resolution of all the muscles; the facial palsy was also complete, and there was deviation of the tongue to the left side. The muscles of the paralysed limbs were wasted, and there was a slightly œdematous state. On examining the heart, we found a loud systolic bellows sound—indicative of an imperfect action of the mitral valve—allowing of regurgitation through the mitral orifice; affording one of many examples of the association of cerebral with cardiac disease. From her habits and age, it seems probable that the mitral disease is due to atheromatous deposits on or in the valve; and similar deposits will also probably be found in the arteries of other parts of the body, and in those of the brain, affecting the vessels perhaps on one side more than those on the other.

In this case the paralysis seems justly referable to disease of the brain; the patient is long past the hysterical age, and the paralysis has all the characters of that produced by lesion. The lesion is not meningeal, because there are no symptoms of irritation, and because the paralysis supervened suddenly, and was complete. We must look for the cause of it in the substance of the brain, and I should be led to locate it either in, or in the immediate vicinity of, the corpus striatum, or of the optic thalamus, as these are the parts most frequently affected in such cases, and as lesion of both or of either of them, but especially of the corpus striatum, gives rise to the most complete paralysis.

When the attack took place, there was no stertor or loss of consciousness: this shows that the paralysing lesion, whatever it may have been, caused no pressure on the brain, nor any great shock to that organ. The lesion, therefore, did not arise probably from effused blood, but rather from some degeneration of the cerebral matter itself—

such as white softening; and this is a form of lesion which very frequently occurs in a subject so ill-nourished as our patient, whose blood is poor, many of whose arteries are undoubtedly in a diseased condition, and whose heart, from the extensive regurgitant disease of the mitral valve, is not capable of supplying the brain with its due amount of blood.

My diagnosis of this case, therefore, is, that there has been white softening of the brain, situated at the parts which I have already named; this softening has probably existed for some time without any distinct symptoms, when suddenly some of the fibres giving way, paralysis followed with equal suddenness. It is neither impossible nor unlikely that some small clots may exist in the white softened substance, produced by rupture of some small vessels not of sufficient size to produce pressure.

The case has been treated upon this view of its nature. Indeed, the constitutional state of the patient afforded no indication for any other mode of treatment but that which would contribute to support and uphold. There is, however, but very little hope that any mode of treatment will be permanently beneficial, the whole nutrient function of the patient seems so seriously impaired: yet it appears very unlikely her vital powers will long enable her to struggle against the distressing influence of the cerebral disease.

I shall conclude this lecture, by calling your attention to the influence of electricity on the paralysed limbs, in each of the cases which I have narrated.

Most of you have frequently witnessed the trials with electricity made on these patients, and can bear me out in the statements I shall make. I may first, however, call to your recollection the doctrine of Dr. Marshall Hall, that, when the influence of the brain upon a limb has been withdrawn, the irritability of the muscles of that limb becomes considerably augmented, and that, therefore, in hemiplegic paralysis, the muscles of the paralysed limb are more excitable by the galvanic stimulus, than those of the sound limb. The results of my experiments have led me to a somewhat different conclusion from that of Dr. Hall; and I would refer you to an account of these experiments published in the last volume of the Medico-Chirurgical Transactions. If, however, I have ventured to express a difference of opinion from Dr. M. Hall, I can truly say that I have no wish to treat with disrespect any views which he may have put forward; but I cannot shrink from stating what I believe to be the truth, even though it be at variance with previously received opinions, however eminent the authority by which they may be sanctioned.

My experiments led me to arrange cases of hemiplegic paralysis in three classes, according to the manner in which the electrical stimulus affects the paralytic limbs. In the *first* class, to which belongs the vast majority of the cases, the paralytic limb was acted upon by electricity very slightly or not at all, and in every instance to a less degree than the sound limb. In the *second* class of cases, no perceptible difference existed as to the effects of electricity on the two limbs: these were cases of recent paralysis, the cause of which was not of a depressing nature. In the *third* class, the electricity produced a greater effect on the paralysed limb than on the sound limb; the difference, however, was never very great, and such cases are not numerous: in all of them the paralysis was accompanied by recent rigidity of the muscles.

Now, of the two cases which we have been describing, we found that in the man Hardwick, electricity produced more effect on the paralysed limbs than on the sound limbs; and in this case you will recollect there is muscular rigidity. After the patient had been some time in the hospital, the paralysis became more complete, and the muscles less rigid, and, in the same proportion, their excitability to the galvanic stimulus also diminished.

In the second case—the woman Williams, electricity produced scarcely any contractions in the paralysed limbs, whilst it caused distinct but somewhat feeble contractions in the sound ones; and you will remember that we applied electricity in this case, not only by the electro-magnetic machine, but also by the simple galvanic trough, making use of a small trough, consisting of a few pairs of plates, and also a large trough consisting of a hundred pairs of plates; and whether we employed the frequently interrupted current, as in the electro-magnetic machine, or the continuous current of the galvanic trough, the same results were obtained.

The conclusions to which I have arrived upon this subject are, that when the paralysed limbs exhibit an early spastic or rigid state of the muscles, as in the case of Hardwick, they will be more excitable by electricity than the sound limbs; but if the paralysis be accompanied by a state of complete resolution of the muscles, the sound limb is most excitable to the galvanic stimulus, and the paralysed limb is scarcely at all to be excited: in the latter case, the nerves of the paralytic limb are in a depressed condition: in the former they are in an irritated condition; and the different effects of electricity in the two cases will depend on the difference of cause of the paralysis;—if the paralysing lesion be irritative, the paralytic limb will be more excitable by the galvanic stimulus;

if, on the other hand, it be depressing, the paralytic limb will be less excitable; and thus this difference in the effect of electricity on the two limbs, may serve to guide us in our diagnosis, and we may conclude that the lesion is irritative or depressing, according as the paralytic limb is more or less excitable by the galvanic stimulus.

LECTURES
ON THE
DISEASES OF INFANCY AND CHILDHOOD,

Delivered at the Middlesex Hospital.

By Charles West, M.D.

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Lecture XXXVI.

Abdominal tumors. Enlargement of abdomen not always the result of actual disease—causes to which it may be due. Abdominal tumors—from enlargement of the liver—by simple hypertrophy—by hydatid growths—by malignant disease—from malignant disease of the kidney—from enlargement of the spleen—from psoas abscess. Cases in illustration.

Infantile syphilis—its symptoms—characters of the syphilitic cachexia—tendency of the symptoms to return after apparent cure—its treatment.

Among the anatomical peculiarities of early life none is more remarkable than the great size of the abdomen, as contrasted with the undeveloped state of the thorax, on the one hand, and of the lower extremities, on the other. Though most striking in the new-born infant, it still continues to a great degree during the whole of the first years of childhood; nor does it altogether disappear until, with advancing age, the pelvis enlarges, the spinal column acquires its proper curvature, the limbs gain their due development, and the chest expands in a measure commensurate with the demands made upon the thoracic viscera for the vigorous performance of their functions.

The anxiety of non-professional persons is often needlessly excited by the large size of the abdomen in childhood, while those even who are conversant with medicine do not always bear in mind the very different causes to which an increase of its bulk may be due. It will, therefore, I think, be no waste of time to notice briefly the circumstances under which *enlargement of the abdomen* may occur in childhood, and to give you what little information I may be able to furnish with reference to those diseases which occasion distinct *abdominal tumors*.

The size of the abdomen sometimes appears preternaturally large, wholly independent of any disorder of the general health, but as the result of a child's growth and development having gone on slowly, so that its body retains its infantine proportions but little altered at the age of two or three years. If, as often happens, this tardy development should be associated with feeble health, with a somewhat impaired performance of the digestive functions, and with a constipated condition of the bowels, flatus is almost sure to collect in the intestines, and the enlargement of the abdomen is thus rendered still more considerable. With such a state of health, too, some of the minor degrees of rickets are often associated; and even though no serious deformity mark the existence of the disorder, yet to its influence are due the undeveloped chest and the small pelvis; while the contracted and misshapen thorax, which is produced by the advance of the disease, makes the abdominal enlargement appear still more striking, and causes the child, according to MM. Rilliet and Barthez' apt comparison, to resemble the toy tumblers which Italian image boys sell about the streets.

In cases such as have been referred to, you will save yourselves and your patient's friends much needless anxiety, if you bear in mind that tabes mesenterica is exceedingly rare before five years of age, while this condition of general abdominal enlargement is met with chiefly between the commencement and the end of the first dentition. Further, you will find that, under these circumstances, the abdomen is perfectly soft and painless; you will learn that no symptom of tubercle has shewn itself; while, if you strip the child, which in doubtful cases you ought to do, you will probably see more or less distinct indications of the action of rickets, either in deforming the skeleton, or in disordering its proportions.

Enlargement of the abdomen is a much more frequent attendant on tubercular peritonitis than on mesenteric disease. The tense and tympanitic and painful state of the abdomen, the sensation of adhesion between the abdominal walls and the subjacent viscera, the loss of flesh, the frequently recurring diarrhœa, the febrile symptoms, and the more or less well-marked indications of tubercular disease which attend it, usually stamp the nature of the affection too clearly for the attentive observer to fall into error.

But besides these cases (and some others the nature of which is too obvious for it to be necessary to dwell on them here), in which there is a general enlargement of the abdomen, there are others in which its increase of size is mainly due to the presence of a distinct and well-defined tumor. A good many instances of this sort have come under my notice at different times, though, as often happens in dispensary practice, the number of them is but small in which I have had the opportunity of watching the affection to its close, and of confirming or correcting by an examination after death the diagnosis formed during the life-time of the patient.

One not very uncommon cause of abdominal tumors is *enlargement of the liver*, which sometimes undergoes a very great increase of its bulk without any obvious reason, and even unattended with any serious disturbance of the general health. I remember a little girl, about 10 years old, who was received into St. Bartholomew's Hospital on account of very great enlargement of her abdomen. She looked very pale, and the distension of the superficial veins of her chest and abdomen, and the livid congestion of her face, shewed that there existed some serious obstacle to the circulation. Her abdomen had been gradually enlarging for many months, and at the time of her admission into the hospital the margin of the liver was distinctly traceable below the umbilicus; her bowels were habitually constipated, but the evacuations were natural in appearance, and the child was well nourished, cheerful, and active, being but little annoyed by her great size. I saw her again two years afterwards, and her condition was then quite unaltered. Similar cases, of what I believe to have been simple hypertrophy of the liver, have since come under my notice. For the most part they were associated with very obvious indications of a scrofulous habit, but on one occasion only was there any serious disturbance of the general health; the child in that instance suffering from very severe diarrhœa, which had succeeded a state of somewhat obstinate constipation.

I once met with a *hydatid tumor of the liver* in a girl aged 13½ years, in whom two years and a half previously a swelling had begun to form at her right side, without any sign of general indisposition, though the subsequent increase of the growth had been attended with occasional attacks of severe pain. At the time of my seeing her she had gone through a variety of treatment, which consisted chiefly in leeching and the inunction of iodine ointment, without any benefit; but her general health was good, although she was small for her age. On removing her dress, the lower part of her chest and the upper part of her abdomen were much enlarged by a growth, the lower margin of which could be felt a little above the umbilicus, and which seemed larger on the right than on the left side. At this time the circumference of her chest, on a level with the nipple, was 25½ inches, and 25 inches four inches lower down; but three years and a half later, and a short time before her death, she measured 32 inches at the former, and 33 at the latter point. Even when I first saw her, the respiratory murmur ceased to be audible on a level with the nipple, and the cavity of the chest became still more encroached on with the advance of the disease. Fluctuation was distinctly perceptible over nearly the whole of the tumor in the chest as well as in the abdomen, and continued so during the whole of the patient's life. It was in May 1840, that the patient first came under my notice, and no change whatever took place in her condition until February 1842. At that time, after severe pain in the tumor had been experienced for several days, a fresh growth made its appearance, of about the size of a breakfast-cup, to the left of the umbilicus and a little above it. In July following the patient began to lose flesh, her appetite failed, and she began to suffer frequent attacks of palpitation. At this time, and often subsequently, the child complained of pain and numbness extending down the right arm. Notwithstanding the progressive increase of the tumor, the patient's health continued tolerably good for the succeeding seventeen months, though she grew but little, and no sign of approaching puberty appeared. In the middle of December 1843, symptoms of gastric disorder shewed themselves; the child suffered much from flatulence, had occasional diarrhœa, severe pain in her abdomen, great feverishness, and her mind wandered a little at night. The skin grew jaundiced, and the water became very high coloured; while the attacks of pain, chiefly referred to the epigastrium, sometimes were so severe that the patient fainted from their intensity. Slight cough came on, and for three weeks before death she was unable for a moment to assume the recumbent posture. Her strength gradually failed, and she died on Jan. 28, 1844, during an unusually severe attack of pain.

On opening the abdomen, from which a gallon and a half of transparent yellow serum escaped, the enormously large liver was brought into view. It reached down to somewhat below the false ribs on the left side, not quite so low on the right, and extended upwards on the left, pushing the diaphragm before it to rather above the upper margin of the second rib, and on the right side to a little above the level of the third. This enlargement seemed made up of the left lobe, for the right lobe, rather dark but otherwise healthy, was found pushed downwards by it into the right flank. The surface of the enormously enlarged left lobe was of a pale colour: on making an incision into it, it was found to have formed a sac, the parietes of which were about a third of an inch thick, containing a gallon of viscid yellow fluid, and a number of hydatids of a large size. The sac itself appeared to be formed by the parent hydatid, the parietes of which were firmly adherent to the substance of the liver. At the anterior edge of the right lobe of the liver, just to the right of the gall-bladder, was a yellowish white tumor of the size of a walnut, which, on being cut into, was seen to be composed of dead and shrivelled hydatids; they were folded together, one within the other, like the coats of an onion, except that, in order to reduce the space they occupied as much as possible, they were plicated. The two or three outer layers had begun to be the seat of cretaceous deposits. The gall-bladder contained a little pale fluid bile.

The lungs were healthy, though much compressed. The valves of the heart were quite healthy, but the pericardium was universally, and in some parts very firmly adherent to its substance, the result, doubtless, of inflammation, which most likely came on at the time when the child began to complain of palpitation of the heart. The other viscera were quite healthy.

I have once seen *the liver* in the child *the seat of malignant disease* of the fungoid kind, in the progress of which the organ acquired a very large size. The affection was attended by vague indications of abdominal disease, in which there was nothing that pointed specially to any one viscus, while the morbid growth, having originated from the under surface of the right lobe of the liver, was supposed, from the relations which it presented, to be due to enlargement of the mesenteric glands. The patient was a little boy, who was eight months old when the first indication of disordered health appeared, in diarrhœa, fretfulness, and loss of flesh and appetite; and at the age of nine months his mother noticed some solid masses in the abdomen, though from the commencement of his illness his belly had been hard and rather tender. The child lived to the age of one year; and for the last six weeks of his life, during which time I had the opportunity of watching him, he suffered from diarrhœa, which was occasionally very profuse. He became extremely emaciated, and his skin assumed an exceedingly sallow colour; but the evacuations, though relaxed, were often natural. No hæmorrhage took place from the intestines, and the urine was found to be perfectly natural whenever it was tested. During the last month of his life he had a slight cough and wheezing respiration; but death seemed due to the constant diarrhœa and the severe pain which the child suffered, his exhaustion being doubtless in great measure the consequence of the blood which should have nourished his body being diverted to supply the enormous mass of fungoid disease of the liver.

During the six weeks that the child was under my observation, his abdomen increased from 21 to 25 inches in circumference, and the tumor, the surface of which was uneven, was always much larger on the left than on the right side. It turned out, however, on an examination after death, that the left lobe of the liver was almost completely healthy, but that it had been driven up under the ribs by the enlarged right lobe; that part of the organ was converted into a soft, white, brain-like matter, intermingled with which were portions of a firmer, highly vascular, fibro-cellular substance. The disease, in short, consisted of a mixture of carcinoma medullare and carcinoma fasciculatum. A few deposits of medullary cancer, one of them as big as a walnut, existed also in the right lung, but the other viscera were healthy.

Malignant disease of the kidney is another occasional cause of abdominal tumor in children, and of this I have met with two instances. The first occurred in a boy, who died at the age of two years and ten months; and the second in a girl, who was little more than six years old at death. In the former case, at the same time that the child became languid and fretful, his abdomen was observed to be enlarging. For a few days in the early part of his illness he was reported to have passed bloody urine, but this symptom did not recur during the subsequent progress of the disease. In proportion as his abdomen increased in size, he became more and more emaciated: he had occasional attacks of diarrhœa, but nevertheless his appetite continued craving, and it was not till ten months after the first symptom had been noticed, that the child died exhausted. In the case of the girl the disease ran a much more rapid course, and death took place in ten weeks from the appearance of the first symptom. She was attacked with feverishness, gastric disorder, and occasional vomiting, which had not continued more than a week when her mother noticed a tumor in the abdomen. When these symptoms came on, the child was well nourished, but she lost flesh rapidly in proportion as her abdomen increased in size; her evacuations were often very unnatural, but at no time was there either diarrhœa or hæmaturia. Towards the end of her life she became very fretful, and seemed occasionally to suffer severe pain in the abdomen; but her death took place suddenly, and without any sign of her health being worse than it had appeared for some days before. In one case the left, in the other the right kidney, was the seat of the disease: the local symptoms were very similar in both instances, and consisted in the presence of a solid tumor occupying the lumbar region, and extending from the spine across the abdomen towards the opposite side, and reaching upwards beneath the ribs, and downwards towards, and in the first case even into the pelvis. On examining the body after death, the nature of the disease was seen in both instances to be precisely the same, being a mixture of cerebriform matter and of the peculiar structure of fungus hæmatodes, while in both the kidney was considerably bigger than the head of an adult.

In this country, and especially in the neighbourhood of London, where the severer forms of intermittent fever seldom occur, we do not often meet with those *enlargements of the spleen* which are common enough even among young children in malarious districts. The only instance of it which I have had the opportunity of observing was presented by a little girl, six years and a half old, who lived at Fernando Po from the age of two years and a half, having had dysentery at three years old, and frequent attacks of fever subsequently. The enlargement of her spleen had first become apparent at five years of age; and when I first saw her, a few weeks after her return from Africa, it had attained so considerable a size that her abdomen measured twenty-one inches and a half in circumference. The spleen in this case reached from under the ribs quite down into the pelvis, and forwards as far as the mesial line of the abdomen. Independently of the patient's history, which in a case of this kind would be of itself sufficient to prevent an erroneous diagnosis, the relations of the swelling were characteristic; for, although situated at the side of the abdomen, it did not extend backwards into the lumbar region so as to fill it up completely, as an enlarged kidney would do, but a considerable interval existed between the posterior margin of the tumor and the vertebral column.

Lastly, before dismissing the subject of abdominal tumors, I must warn you of the possibility of mistaking the swelling formed by a *psoas abscess* for that produced by enlargement of the kidney. When psoas abscess occurs in young children, its early stages may readily be overlooked, partly because the patient is unable to describe those vague sensations of uneasiness in the loins by which it is attended,—partly because impairment or loss of the power of walking is so common a result of indisposition of any kind that no inquiry may be made after any special cause for its occurrence. The gradual failure of the health, the loss of flesh, and the occasional disturbance of the bowels, are symptoms that attend upon various disorders of the abdominal viscera, and that present nothing pathognomonic of any. The tumor, like that formed by enlargement of the kidney, occupies the lumbar region, projecting forwards into the abdomen; while fluctuation in the abscess is often so obscure as to be scarcely, if at all, perceptible. The tumor of psoas abscess, however, reaches less high up in the abdomen than that formed by enlargement of the kidney; its contour is usually more circular, less oval; and the tenderness over it is in general greater than in cases of malignant disease of the kidney. As the affection advances, and the matter gravitates into the thigh or points in the lumbar region, its nature becomes clearly manifest; but though, as far as the final issue of the case is concerned, an error of diagnosis is of but little import, it is yet very desirable for our own reputation that we should not, at any period, have fallen into a mistake as to its nature.

According to the plan which we proposed to follow in this course of lectures, there remains for us now to study, in conclusion, the febrile diseases of infancy and childhood. There is one affection, however, too important to be passed over in silence, although it cannot be assigned to any of those classes into which, for convenience sake, we distributed the diseases of early life. I propose, therefore, to devote the remaining half hour of to-day to the study of *infantile syphilis*, and to defer till to-morrow the consideration of the fevers and exanthemata.

Syphilis, as it occurs in the infant, presents many important differences from the characters which it presents in the adult, nor is there in this anything to excite our surprise, if we bear in mind the very different circumstances under which, in the two cases, the poison infects the organism. In the adult the manifestations of the disease are almost always the result of the direct inoculation of the system with the venereal virus. In the child, infection by that mode seldom occurs. The supposition, once generally entertained, that an infant becomes affected with syphilis in consequence of its body being brought, during the time of its birth, into contact with venereal sores upon the mother's genitals, is now deservedly regarded as altogether erroneous. The infection of a child by sucking the breast of a syphilitic nurse is an unusual occurrence; and in by far the greater number of cases the infant has contracted the disease in the womb, although its indications comparatively seldom shew themselves until at least fourteen days after birth. In many of these cases the mother has, during her pregnancy, been the subject of primary syphilis, or if not, has presented well-marked secondary symptoms; and under either of these conditions we can understand that her infected blood may deteriorate that of her infant, and give rise to consequences more or less analogous to those from which she has recently suffered herself. Cases, however, are now and then met with in which the venereal taint appears to have been derived entirely from the father, the mother not having suffered, either before or during her pregnancy, either from primary or secondary symptoms, although she has given birth to an infant affected with all the characteristic marks of syphilitic disease.

Through whichever of these media the infant becomes infected with syphilis, *symptoms* of the same kind appear, though there is no invariable order in which they shew themselves; and coryza is its earliest indication in one case, a cutaneous eruption in a second, ulceration about the corners of the mouth in a third. When we consider the frequency with which abortion or premature labour appears to be due to the influence of the syphilitic poison, it might naturally be expected that cases should be by no means unusual in which infants at the moment of their birth should present evidences of the venereal taint. This, however, is very seldom the case,—so seldom, indeed, that I do not remember to have met an instance of it; neither has any come under the notice of M. Trousseau, of Paris,* whose appointment at the Hôpital Neckèr in that city gives him most ample opportunities for observing the diseases of early infancy. Children, although infected with syphilis, and in whom the signs of the disease speedily shew themselves, are yet generally well nourished, and apparently in good health, at the time of birth. This, too, is observed to be the case even where the mother has suffered severely from secondary symptoms,—has already aborted frequently, or has given birth prematurely to dead children whose cuticle was peeling off—a condition regarded, and probably with justice, as an effect of the venereal poison. When, however, she at length produces a living child, there is nothing for the first two or three weeks after its birth to distinguish it from the offspring of the most healthy parents. After the lapse of that time the first symptom of disease shews itself; and most commonly this is nothing more than the occurrence of a degree of snuffling with the child's breathing, and slight difficulty in sucking,—the signs, in short, of ordinary coryza. Now and then, as I stated some days ago,† no other indication of syphilis appears, but nevertheless the coryza does not yield until after the child has been brought under the influence of mercurial remedies,—a fact which would serve to shew that although unaccompanied with other signs of venereal taint, the snuffles of young infants are sometimes produced by that cause. In the majority of instances, however, the coryza does not continue long without characteristic signs of disease appearing about the nostrils themselves, and without syphilitic eruptions breaking out upon the surface of the body. The mucous membrane of the nostrils secretes a yellow icherous matter, sometimes slightly streaked with blood, which drying, obstructs the opening of the nostrils, and renders breathing and sucking very distressing to the child. The voice, too, before long becomes affected, and assumes a peculiar hoarse tone, which has been not inaptly compared to the sound of a child's penny trumpet, and which, when you once have heard it, you will at once recognize as almost pathognomonic of syphilis. This change of voice depends no doubt on the affection of the throat, which you will often see, in common with the interior of the mouth, to be red and shining, and to present many superficial ulcerations. The skin of the upper lip over which the discharge from the nostrils runs, often becomes excoriated, or if not it assumes a peculiar yellowish brown colour, like the hue of a faded leaf. Should the disease be unchecked, large patches of the skin upon the face and forehead put on this appearance, which seems due to a kind of staining of the part, unaccompanied with any other alteration. Both lips before long become affected: a number of minute perpendicular fissures take place in them, which bleed whenever the infant sucks; and small ulcerations appear at either angle of the mouth. It generally happens, however, before these effects of the disease have become very obvious about the mouth, that the skin in various parts presents appearances equally characteristic. Though not limited to any situation, the eruption of syphilis usually makes its appearance about the buttocks and nates, in the form of small, circular, shining spots of a coppery red colour, having a slightly shining surface, and disposed to become somewhat tough at their centre from the desquamation of the epidermis in that situation. The spots in the neighbourhood of the anus often degenerate into small, soft, spongy ulcerations, with a slightly elevated base; the margins of the anus become fissured just in the same way as the edges of the lips had done; and the skin about the scrotum and along the inside of the thighs grows red, sore, cracked, shining, and denuded of its epidermis. The eyes grow weak, the margins of the eyelids sore, and a scanty adhesive puriform secretion is poured out from the Meibomian glands, attended with but little redness of the conjunctiva. Sometimes, too, the hair of the head drops off, as small, red, sometimes slightly elevated spots, extend over the scalp.

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* See his very valuable memoir on Infantile Syphilis, in the Archives Gén. de Médecine for October 1847.

† In Lecture XV., MED. GAZ. vol. xl. p. 867.

The child is generally by this time reduced to the last stage of weakness and attenuation, but even when the disease proves fatal, it does not as in the adult affect the bones. I have chanced, indeed, to see one instance of destruction of the bony palate from this cause in an infant of a few months old, but so rare is the occurrence, that the late Mr. Colles of Dublin,* notwithstanding his immense experience, states that he had never observed it. Should life be prolonged after the disease has reached an advanced stage, its further manifestations consist in the formation of small pustules about the mouth, especially upon the lower lip and chin, which destroy the cutis, and leave the surface after they have healed much scarred by their cicatrices. The epidermis, too, in some bad cases peels off the hands and feet: it generally becomes thickened to a kind of crust, like that which forms on the hand in psoriaris palmaria, and then cracking, falls off in patches, leaving the skin fissured, and sometimes deeply ulcerated at the bend of the wrist or at the flexures of the fingers and toes. The new and delicate epidermis in its turn undergoes a similar thickening, and becomes detached in the same manner, or else it continues white and thin, but shrivelled, and looking like the sodden and wrinkled skin of a washerwoman's hand, and peeling off in little fragments, leaves the cutis, especially at the tip of the fingers and toes, red, and bleeding slightly, even on the gentlest touch.

Although such are the effects that may flow from infantile syphilis when it runs its course unchecked, it yet happens but rarely that we meet in any case with all the symptoms that have just been described. Most serious constitutional disturbance is associated with the local mischief, and the child often falls a victim to the former, when the outward signs of syphilitic disease are yet comparatively slight. It wastes rapidly, it suffers from sickness, or its bowels become much purged: it is constantly fretful and uneasy; the advance of ossification is arrested; the head feels soft, and the anterior fontanelle is large: circumstances which sometimes lead to the suspicion that chronic hydrocephalus has come on, though if the poison of syphilis should be eradicated from the system, the subsequent complete recovery of the patient shows that no serious cerebral disease had existed. In children affected by this syphilitic cachexia, not only are the loss of flesh, and that withered aspect which gives to infancy the appearance of old age, very remarkable, but also the bloodless state of the conjunctiva, and the yellow, waxen hue of the skin, like that of a person who has been reduced to the most extreme degree of anæmia. Even in children who have survived their earliest infancy, and in whom the disease, though not completely eradicated, has yet been kept in check, the colour of the skin continues, and seems, indeed, to be an almost pathognomonic sign of the affection from which they are suffering.

When imperfectly cured, too, other indications of the disease remain besides the impairment of the general health, the loss of flesh, and the peculiar colour of the skin, or at least, if not constantly present, they show themselves from time to time, reappearing at uncertain intervals, without there being any fresh cause for their manifestation. Such symptoms are the return of the small copper-coloured spots, which, however, seldom reappear in considerable numbers; the general loss of hair; the existence of a slight degree of coryza; the appearance of one or two soft, tubercular elevations, with ulcerated summits about the organs of generations, or the outbreak of a very severe and unmanageable intertrigo. In other instances, there are few local signs of the disease beyond the occurrence of small ulcerations at each angle of the mouth, or the development of large soft condylomata at the verge of the anus, or in a few instances the formation of exceedingly troublesome ulcerations, having a slightly elevated base, between the fingers and the toes, which last appearances seem to belong to the tertiary rather than to the secondary consequences of syphilitic disease.

The duration of the disease, and the mode in which it proves fatal, vary in different cases; for while death sometimes takes place speedily under the first outbreak of its symptoms, life is in the other instances prolonged for several months. In cases of this latter kind the more marked signs of the disease recede for a time, either spontaneously or under medical treatment, but the evidences of the syphilitic cachexia continue, the child never regains it health, glandular enlargements take place, and it either dies phthisical, or else drags out a miserable existence until some intercurrent disease, as pneumonia or diarrhœa, supervenes and destroys it.

But though the consequences of infantile syphilis are so serious, if it be either let alone or inefficiently treated, a fatal result seldom takes place if remedies be employed before the syphilitic cachexia has become fully established, and if *treatment*, when once begun, is perseveringly continued for some time after the complete disappearance of every symptom. This, indeed, sometimes implies the continuance of treatment for two or even three months; for so long as any symptoms remain, be it only a slight spot of eruption, or a small condyloma about the anus, the suspension of remedies would be certainly followed by the reappearance of the whole train of symptoms. Even after the apparent cure of the affection, it is not wise hastily to omit all medicines, since, just as in the adult, the symptoms have a great tendency to recur.

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* Practical Observations on the Venereal Disease. 8vo. London, 1837, p. 271.

Mercury in some form or other appears to be indispensable to the cure of this affection. It has been recommended by some writers not to administer it directly to the child, but to content ourselves with bringing the mother's system gently under the mercurial influence, and to cure the infant through this medium. In some slight cases this may suffice, and in almost all, the cure of the infant is materially expedited by the administration of the remedy to its mother; but I think that as a general rule, it is expedient to give mercury likewise to the child. I prefer the Hydrargyrum cum Cretâ to any other form of the remedy, and should give it in doses of a grain twice a day to a child of six weeks old, continuing it with two or three grains of chalk if the bowels were disturbed at the time of commencing the treatment, or if they became so during its continuance. I have never found it seriously disagree, though sometimes it causes sickness, in which case small doses of calomel, or of the solution of corrosive sublimate, may be substituted for it. The former of these preparations, however, is apt to occasion diarrhœa, while the latter has not seldom disappointed me by not seeming to do much good. In some cases, whatever be the form of mercurial employed, its protracted use occasions such great irritability of the stomach, that we are compelled to discontinue the remedy. Usually, the child becomes able to take it again, after a pause of two or three days; but if this should not be the case, we must leave it off, and content ourselves with ordering a scruple of mercurial ointment to be rubbed into the thighs or the axillæ twice a day.

As a local application to the sores, the black wash usually agrees better than any thing else, but the large, soft condylomata, which form about the anus, often require to be touched with the solid nitrate of silver. It very often happens that as the syphilitic symptoms disappear, the health of the child becomes perfectly restored under the use of no other remedy than mercury. If this be not the case, however, some tonic medicine or other must be given. If the bowels be disordered, the Liquor Cinchonæ, or the extract of bark given either by itself or combined with the extract sarsaparilla, will be found very useful. If there be no gastric or intestinal irritation, minute doses of iodide of potass may be given in combination with the extract of sarsaparilla; but if the syphilitic cachexia be well marked, and the child have suffered long from syphilis, or have had frequent returns of symptoms of the disease, no remedy has appeared to be so serviceable as the iodide of iron, which may be given in the form of the syrup, and in most cases taken by the child very readily, and is seldom found to disagree.

Original Communications.

THE LITERATURE, PROBABLE PATHOLOGY, &c., OF CAULIFLOWER EXCRESCENCE OF THE UTERUS.

By Dr. Renaud.

(Concluded from page 165.)

Until very lately, the great mass of evidence collected went very much in favour of the cancerous origin of cauliflower excrescence. From the literature of the subject up to the present day, it must have appeared obvious, that much greater latitude has been allowed to the constitution of the disease, than was assigned it by Dr. J. Clarke. Dr. Blundell especially has taken a comprehensive and most philosophical view of the subject. I would wish in particular to call attention to the case recorded by Dr. Canella, where the disease commenced on the anterior lip of the uterus, somewhat after the manner of the pediculated vivaces described by Levret; returned on the posterior lip, as a sessile polypus of the same author; re-appeared around the os uteri as cauliflower excrescence; and finally destroyed the patient under the form of scirrhus of the uterus. When all the minute shades of difference are introduced, the proximity of the disease to fungus hæmatodes is very striking; but that a real difference exists in the minute *arrangement* of parts I shall hope to show *you*.

The term "cancer" is so characteristic in a general sense of the word, yet so ill to be defined when taken in detail, that the greatest discrepancies yet exist as to the exact meaning of the word. In 1808, we find Dr. Clarke fabricating a new name for this disease (cauliflower excrescence) of the uterus, because he wished to distinguish it from cancer. In 1809, Mr. Wardrop, in his work on Fungus Hæmatodes, wrote that although fungus had some analogy to cancer, yet it could not be considered a disease arising from the same morbid alteration of structure; whereas M. Dupuytren, in his Cliniques Chirurgicales, expressly designates the hæmatoid fungus as the association of medullary cancer with the rectile vascular tumor in differing and varying proportions. In 1810, Dr. Denman adopted a similar precaution in his treatise on cancer: "if," said he, "different diseases have gone under the appellation of cancer, the points of resemblance and difference ought to be strongly delineated, and no position admitted as irrefragable, however great the authority with which it may be made, without submitting it to the most accurate and severe examination."

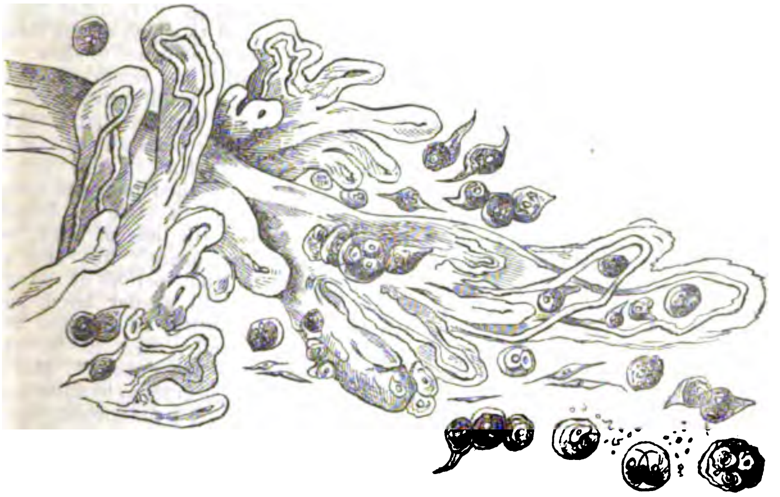
I quote these opinions, to show with how much qualification, and allowance for prevailing opinion, we ought to receive the statements of authors with respect to the cancerous nature of this disease. Neither can I doubt that Dr. J. Clarke, in 1808, *i. e.* some months before his paper appeared on cauliflower excrescence, detailed a case of this disease, but that from the combination of hard tumors of the uterus, and a greater quantity of cancer matter existing in the excrescence than is commonly proportionate to the vascular apparatus, he was led to doubt the propriety of affixing to it its proper name. It is described as a soft spongy tumor issuing from the os uteri, tender in consistence, and readily separable in its parts, discharging bloody water and coagula, removed by ligature, but returning and causing death by exhausting discharges.

In order, however, the more clearly to be understood, I would briefly enumerate the appearances which I conceive necessary to the constitution of cancer. It is not sufficient for the establishment of a diagnosis to say that cancer grows by cells; for the same holds good in the fat cells of fatty tumors, in the fibre cells of fibrous tumors. There must be certain fixed and unvarying cell formations in a cancerous tumor, to constitute a diagnosis; not *one* cell of an exact shape, but one or more varieties of that cell formation. From the great variety of forms assumed by cancer cells, Vogel comes to the conclusion that there is no such thing as a distinctive cancer cell; and consequently from observing a *single* cell under the microscope, it is impossible to discern with accuracy whether it is cancerous or not; but that on examining a mass of these cells we can often decide with *certainty* whether they be cancer cells or not, from the varieties which they present.

Amongst the unvarying elements of cancer, other formations, which may be destined accidental, may or may not be found. Of the certain elements are—1. Cells of a spherical, elliptical, irregular or caudate shape, each containing one or more nuclei, and these nuclei frequently developing nucleoli, in their turn to perform the functions of the parent cell, when it may have suffered disintegration. 2. A fluid or pabulum, out of which these cells are eliminated. 3. Granular particles. Of the accidental elements, are—1. Fat globules. 2. Compound granular sorpuscles or inflammatory globules of gluge, the consequence of irritative inflammation. 3. Various salts and crystals. On the neutral ground, *i. e.* not quite absolute, nor altogether accidental, I would place the fibre cells, which, although constantly found in cancers, are yet proper to healthy tissues, and do but seem to form a basis or scaffolding on which the malignant matters build themselves up. True cancer elements, in whatever variety they may exist, are classed as heterologous, altogether foreign to the body in health.

I have preferred giving the elementary principles of which cancer is made up, to attempting an eloquent definition of the disease, which, however worded, is always liable to one or more objections. For the rest, the density of the tumor will always be found to be great or not, according to the ever-varying amount of fibre which may be associated with it, and in some measure in proportion to the resistance offered to its spread by surrounding parts.

Cancer, *for the most part*, grows at the expense of the natural tissues, which are either converted or absorbed, and their places occupied. I have said "*for the most part*," because fungoid cancers on free surfaces frequently grow to a goodly size without affecting the tissues on which they are implanted. Arguing thus for the cancerous origin of cauliflower excrescences, it does not appear that there need be any transmutation of the natural tissues of the uterus, but rather that a *new* formation has origin within the fibres of the uterus, which serve it as a nidus, and into which it penetrates, but which, in course of time, it may destroy or displace. This new formation, I am of opinion, is a compound of tufted capillaries, the exact counterpart of those which go to form the human placenta, and of nucleated cells answering to the description given of cancer cells. That, as the capillary loops elongate, so do the cancer cells grow; and in this particular it is that a disease really cancerous differs in the arrangement of parts from the ordinary minute anatomy of cancers. The organized vascular tufts of cauliflower excrescence are widely different from the arrangement of blood-vessels in other forms of cancer,—from the extravasated patches of fungus hæmatodes, which arise from a simple extension and bursting of vessels proper to the body in health; or from the ramifications of small arteries and veins along the fibrous septa of true scirrhus. In the cauliflower excrescence the tufts of looped capillaries dip down in every direction into the substance of the tumor, constituting much of its absolute size during life, and accounting, in part, for the inordinate shrinking the mass undergoes after death,—for the coats of these capillaries being very thin, the more watery parts of the blood find a ready exit through them, and flow forth from the body through the pudendal outlet.



Minute Anatomy of Cauliflower Excrescence of the Uterus.

They who object to cauliflower excrescence being a malignant disease, may feel disposed to urge that it and cancer may coexist, and yet be independent the one of the other, in the same manner that ovarian cystic tumors may be in themselves benign, but in progress of growth have soft cancer ingrafted on one or more loculi as an accidental circumstance. Were such the fact, it is highly improbable that the vascular interspaces of cauliflower excrescence should be filled up with closely packed cells, precisely analogous to those that go to constitute cerebriform cancer; and that the capillary blood-vessels should elongate themselves more and more without having some specific purpose to fulfil. This would be arguing contrary to nature. Or again, Dr. Hodgkin laid down five characteristics of malignant disease to serve in the place of a definition. These are—adjacent lesion, form of ulcer, glandular enlargement, occurrence of similar lesion in other parts, and constitutional affection. Four out of the five characters are common to cauliflower excrescence, with other malignant formations.

Assuming the first of these five—viz., adjacent lesions—to be as little liable as any to objection, then it follows that as cauliflower excrescence does frequently give rise to alterations of structures in the immediate neighbourhood of the spot primarily affected, it may be, and probably is, malignant on this principle. Nor will the fact that alterations of surrounding structures may accompany other tumors besides those which are considered malignant, militate in aught against this view of the disease, because any doubts of the real nature of the propinqual changes that may have existed during life have been again and again dispelled by post-mortem examinations. Nay, to altogether reverse the case, it by no means follows that because the disease may be removed by excision or ligature, or the patient may die, and the surrounding parts either are not at all, or not perceptibly, departed from the natural arrangement, that the disease should not be malignant, seeing how often the more common forms of cancer, in particular organs, confine themselves exclusively to those organs, and cause death without producing secondary cancers in remote parts, or contaminating those most nearly approached.

It should not, however, be forgotten that encephaloid cancer has a great tendency to unite itself with vascular tumors; and there appear three ways in which this conjunction may determine:—

1. The vascular structure may be added to the encephaloid.
2. The encephaloid may be superadded to the vascular.
3. They may be simultaneous in origin.

Of the second way, or where the encephaloid seems added to the vascular, the vivaces of Levret seem an apt illustration: readily bleeding when touched, and seeming to consist essentially of newly-formed capillaries springing from an ulcerous surface, and very readily reproduced when destroyed, but when reproduced, more liable to return with cancer than without it. Nævi, aneurism by anastomosis, or morbid erectile tissue, are further examples, and subject alike to inordinate and unrepressed development when an increased determination of blood takes place towards the region of the body in which they are situated (Hodgkin, p. 272); and possess a remarkable proneness to become the seat of malignant disease. There seems also a probability, bordering upon demonstration, that cauliflower excrescence takes origin from one of these combinations of vascular tissue with cancer, but to which of the three there is as yet no evidence to shew.

Sir C. Clarke has remarked, that "perhaps some small arteries near the os uteri may undergo that morbid dilatation of their coats which is analogous to aneurism in the larger trunks;" and he then puts the question—"may such a state of blood-vessels exist at the time of birth, remain concealed in early life, and be developed at that period at which blood rushes with greater force, and in greater quantity, to enlarge the organs, and render them fit for the performance of new duties?" But as these questions, in order to be answered, would imply either a rudimentary form of this disease in every uterus, or a manifest departure from the general integrity of the organs of the body when newly formed, it seems unlikely that this speculation should be just. Were the evidence of the return of the disease after complete excision of the cervix more certain, the question would at once receive a negative answer. In Mr. Lee's case of excision the disease was reproduced, but it appears a small portion of the cervix remained uncut away.

Having given a reason why I believe cauliflower excrescence may be considered cancerous, from direct demonstration and indirect reasoning, I may draw attention to the opinions of authors, as seen in the statistical table, from which it will appear how greatly the evidence for its malignancy preponderates. By reference to the column entitled "Supposed cause," it will be seen with how little confidence in this country the idea of a syphilitic origin for the disease has been received. The married and unmarried, and parties of all ages and established prudence, are alike the subjects. Sir C. Clarke spoke very ably on this part of the subject, and was decidedly of opinion that the disease was not traceable to any syphilitic cause; nevertheless, M. Boivin concluded him to be wrong in rejecting the possibility of such an origin, concluding that syphilis may induce chronic metritis, and afterwards cancerous disease of the os uteri. In reply to this supposition, for it is merely an unsupported conjecture, the assertion from Sir C. Clarke again stands opposed: "that common prostitutes are by no means more liable to it than any similar number of women in different stations of life; for the disease arises as often in the strong and robust as in the weak; in persons who live in the country, and in those who inhabit large towns; in those whose situation in life oblige them to labour, as well as those who, from their rank in society, sometimes consider themselves privileged to become useless members of it."

It is quite possible syphilis may be one of many predisposing causes, and I know myself one case wherein several abortions occurred indirectly through former syphilis having predisposed the uterus to congestion and irritability, which in the end took on the cauliflower variety of disease.

This statistical table (see page 200) comprises nearly all the well-authenticated and completed cases with which I have been enabled to meet, and is proof, if any proof be wanted, of the necessity for a further accumulation of careful records of this disease.

Treatment.

The treatment resolves itself, first, into operation with intent to cure, either by ablation of the cervix uteri, ligature around the base of the tumor, or by caustics locally applied; secondly, into a palliative treatment, without intent to cure, but with intent to prolong life, reduce pain, and render more endurable the miseries that in this disease so thickly bestrew the passage to the grave.

That the cervix uteri may be excised with moderate safety to the patient has been long proved by the surgery of M. Lisfranc, who performed the operation some ninety-nine times for various diseases, and with recovery to the major part of his patients. I merely quote the fact, without one word of comment; nevertheless, erring on the cautious side, I have omitted to introduce M. Lisfranc's name into the statistical table. If, therefore, cauliflower excrescence be found implanted on the os uteri, and there be no wide-spread indúration of the cervix, or enlargement of the body of the uterus, neither any ovarian tumors, there is very good reason to expect that excision of the cervix uteri will be attended with present relief to the patient, and, at the same time, afford her a probable chance of recovery. From evidence already in possession, it would appear that the chances are greatly in favour of a return of disease to the uterus or appendages in the form of cerebriform cancer. Dr. Simpson has nevertheless recorded a case of this disease on which he operated by excising the uterine neck so successfully, that five years afterwards the woman remained in good health, and, in the interval, had given birth to, and suckled, three healthy children. Dr. Montgomery also had a case of this disease, for the cure of which he had removed the cervix, and the woman remained well at the time of writing—viz. three years after the operation.

The more common practice, as being the more easy of adoption, and the less attended with dangerous consequences, has been the passing a ligature as near round the base of the tumor as the peculiarity of its shape will admit. This operation does not appear to be attended with any common risk to life, and the greatest inconvenience to be expected from it is the fœtor of discharge, and sphacelus consequent upon the tedium of separation. Accordingly as the tumor is more or less dense, and the ligature aptly applied, will be the duration of time necessary to the complete separation of the parts. Twelve days may be allowed as a maximum time for the accomplishment of this purpose, and three or four days a minimum. On the ligature coming away, the parts may be allowed to remain quiet, or corroding substances applied to the cervix of the uterus, with intent the more completely to destroy the root. Amongst the best of these will be found the potassa fusa, nitrate of silver, fluid nitrate of mercury, or plain nitric acid. All or any of the foregoing may be directly applied to the neck of the uterus, through the speculum, with the most complete impunity.

Age.	Duration.	Site of tumor.	Sensibility.	State of cervix uteri.	State of uterus.	Married.	Children.	Abortions.	Supposed cause.	Operation.	Result of operation.	Name of author.	Opinion of author.
50	8 mos.	⅔ neck of uterus	None	Cerebriform cancer	Cancerous spots	?	?	?	None given	None	?	Dr. Heming	Encephalosis
42	11 mos.	Ant. lip	Do.	Hard	0	?	8	1	Do.	Ligature	Return	Madame Boivin	Fungous Cancer
30	4 mos.	Ant. lip	Do.	?	?	?	1	0	Do.	Ligature	Cancer of uterus one year after	Madame Boivin	Fungous Cancer
34	?	Ant. lip	?	Soft	?	0	0	0	Do.	Excision	Not known	Do.	Do.
36	16 mos.	Whole os uteri	0	Soft	No alteration	Yes	?	2	Do.	0	0	Dr. Lever	Malignant
40	18 mos.	⅔ neck of uterus	0	0	0	Yes	Several	0	Do.	Ligature	Return in 2 years	Dr. Ashwell	Malignant
32	9 mos.	Whole os	0	?	No alteration	Yes	9	0	Do.	0	0	Sir C. Clarke	Vascular
40	27 mos.	Post. lip	0	0	No alteration	Yes	7	7	Do.	Excision	Return; cysts in ovaries	Mr. Lee	Non-malignant
60	4 yrs.	Whole os	0	0	Hypertrophy; abdom. tumor	Yes	9	0	Do.	Ligature	Return, twice	Sir C. Clarke	Vascular
26	9 mos.	Whole os		0	0	?	?	?	Do.	0	0	Dr. D. Clarke	Not cancer
?	?	⅓ os uteri	0	?	Enlarged	?	?	?	Do.	Ligature	Cancer	Do.	Do.
?	12 mos.	Whole os	0	Caverous	Body of uterus enlarged; cancer of ovary	Yes	7	0	Do.	Caustics	Cancer	Mr. Whitehead	Malignant
30	12 mos.	Whole os	0	Cancerous	Body unaltered	Yes	12	3	Do.	Caustics	Cancer of os uteri & vagina	Mr. Whitehead	Do.
37	10 mos.	⅔ os uteri	0	Hypertrophy	0	Yes	3	1, accidental	Do.	Ligature & nit. acid	Well 5 months afterwards	Dr. Oldham	Species of soft cancer
43	?	Whole os	0	0	0	Yes	9	0	Do.	Ligature twice	0	Dr. Montgomery & Dr. Anderson	Malignant
37	6 mos.	Part of os	0	?	?	Yes	0	0	Do.	Excision	?	Mr. Syme	Non-malignant
60	0	0	0	0	0	0	0	0	Do.	Ligature	Return in 5 months.	Dr. Montgomery	Malignant
36	9 mos.	Cervix	0	0	0	Yes	3	2	Do.	Ligature	Return in 23 days.	Dr. Browne	?
33	5 mos.	⅔ os uteri	0	½ in. diseased	0	Yes	Yes	2	Do.	Ligature	Death in 4 months.	Dr. Gooch	Fung. hæmat.
35	16 mos.	¾ cervix	0	0	0	Yes	2	0	Do.	Ligature	Malignant disease of ovaries	Dr. Bedingford	?
40	5½ mos.	Cervix	0	Scirrhous	?	?	1	0	Syph. ?	Caustics; excision	Cicatrix sound 5 weeks after	Dr. Avenel	Cancer
37	9 mos.	Cervix	0	Scirrhous	?	?	3	0	Syph. ?	Excision	Cicatrix sound 7 weeks after	Dr. Avenel	Cancer
34	14 mos.	Cervix	0	Cancerous	Cancerous	Yes	8	3	Once syph.	Caustics	Cancer of uterus, &c. &c.	Dr. Renaud	Fungous cancer

A third method of destroying the excrescence is by means of caustic substances applied to it twice or three times a week. For this purpose the solid nitrate of silver, or a very strong solution, may be used, and used freely. If the tumor be large, as much as a quarter of an inch of caustic may be melted down on its surface, and within its interstices; or I have allowed as much as a drachm or two of the strong solution to infiltrate into the tumor through the speculum. This treatment, when regularly continued, does not fail shortly to develop the root of the fungus; and thus, by cutting off the mass of the disease, reduces the wasting discharges, and gives the patient time to rally. I would prefer this plan of treatment to ligature, because it gives no more annoyance, perhaps less, to the patient than it; and, moreover, does away with the offensiveness of the discharges, besides being a more gradual process.

Taking a view of the disease as cancerous, one grave objection may posibly apply to the ligature and caustics in common—viz. that the same malignant action being repressed on a free surface, will have a corresponding tendency to repeat itself within the tissues of the part on which it is implanted, and spread itself by simple extension, or be found as secondary cancerous masses in remote parts of the body. Thus, while a real good may appear to be effected on one part, a more than corresponding evil may be ingrafted on another.

With regard to the operation of complete excision of the cervix, the same rule will apply as that in force concerning hæmatoid fungus, viz. the complete ablation of the diseased part, —an operation the performance of which, under favourable circumstances, would appear always just, on the principle of obtaining a present good, rather than delaying for fear of a contingent evil. It is true that excision of the os and cervix uteri has fallen into much disrepute, and for the reason probably that numbers of such operations have been performed unnecessarily, injudiciously, and not seldom for the removal of mere functional engorgements capable of cure by therapeutic means.

After any of these operations, it would seem politic to have recourse to occasional local abstractions of blood, and to place the patient on a long course of alterative medicines, recommending, in addition, pure air, moderate exercise, and cheerful associations.

From the great length to which the paper has already prolonged itself, I pass over the consideration of palliative medicines, which are useful in this form of disease, in common with other foreign growths from these parts, and, in conclusion, have to hope I may have been enabled to place the disease on a more sure basis, and that future attempts at its treatment may be made with more certainty as to purpose, and with a degree of success proportionate to its gravity; so that, on the one hand, inordinate expectations may be repressed, and, on the other, too melancholy forebodings may be discouraged.

CASE OF

UMBILICAL HERNIA,

COMPLICATED WITH, AND PROBABLY CAUSED BY,

PHYMOSIS.

OPERATION OF CIRCUMCISION FOLLOWED BY A CURE OF THE HERNIA.

By H. Burford Norman, F.R.C.S.
Surgeon to the St. Marylebone and Blenheim Street Dispensaries, and to the Western Ophthalmic Institution.

The following case has appeared to me, and to some of my professional friends to whom I have named it, to possess much interest. I may venture, therefore, to suppose that its recital will not prove uninteresting to those readers of the Medical Gazette generally who may be engaged in the study or practice of surgery. So far as I know, it is unique; and as a solitary observation I record it, in order to direct attention to the point of practice involved. I would not wish to make too much of the result of that practice, but would submit the case as it is, and for as much as it is worth, to the consideration of my professional brethren.

Case.—On the 4th of December last, J. B., a fine healthy-looking little boy, æt. 18 months, was brought for my advice to the Marylebone Dispensary, in consequence of being the subject of umbilical hernia, the existence of which had been noticed by his mother some weeks. She felt sure that the tumor was not congenital, but had very little positive knowlege of its commencement, or whether the number of weeks it had existed might amount to months. She had on this account no idea to what she might attribute the tumor, and had adopted no means for its cure.

The hernia, when I saw it, was of the size of a large nutmeg, or between that and a walnut: it was very readily reduced, and shewed no great disposition to return, remaining in the abdomen whilst the child was quiet, but being protruded with violence, and of increased size, on the child's crying and struggling whilst I examined him.

On directing my inquiries to the probable or possible causes of the malady, I was led first to investigate the respiratory functions. With them all appeared well. Respiration was easy, and altogether natural. The child neither was at the time, nor had previously been, the subject of cough.

In the digestive functions there appeared to be equally little fault. The bowels were said to be regular, and the appetite good. The tongue was clean. The child was in good condition, and had not been subject to diarrhœa or constipation. He was frequently noticed to pick his nose and anus, but had never voided ascarides.

On inquiring into the state of the urinary organs and functions, I found that the child made water very frequently, that he appeared to be in pain in the perineum whilst doing so, as indicated by his seeming uneasy, and putting his hand there during the act, —that the urine was voided more slowly, and apparently with greater exertion and straining than natural,— that the child was frequently noticed to play with the penis, and to pull about the prepuce. He had never passed bloody urine, and was as active as other children of his age.

The prepuce I found on examination very long, and its orifice so narrow and unyielding that I could not pass a probe into it, much less expose the glans penis. Here, it seemed to me, was a state of things which in all probability had occasioned the hernia, and the propriety of removing the prepuce by circumcision suggested itself to my mind as an efficient and suitable remedy; and, supposing this was not the case, *at least* I thought it desirable and right to remove a cause of so great obstruction to the due passage of the urine, which was already by this effect creating much inconvenience, and which might, by its continuance, occasion still more serious urinary disease —possibly calculus of the bladder. Again there was no harm to be apprehended from the operation, and it would in all probability require to be performed at a later period of life, when it would be on all accounts a more serious matter. These things having been represented to the parents, they readily assented to the operation; and, an aperient powder having been prescribed, the next day but one was fixed for doing it.

6th.—The bowels were freely opened yesterday and to-day, and the child appeared in a very fit state for the operation. A little chloroform was administered on a sponge, and in a few seconds the child was in a state of complete repose. He was then held in a convenient position on his mother's lap, and the prepuce being drawn forwards, was grasped gently between the blades of polypus forceps by Mr. Matthews, the Apothecary of the Dispensary, who assisted me. I then sliced off with a bistoury that portion of the prepuce which was on the distal side of the forceps, and consisted only of the skin forming its free margin. The forceps being opened, the skin became retracted behind the glans, leaving the mucous membrane entire covering it. A slit was then made in the membrane, and a director having been passed under it, it was divided in its whole length to its reflection from the penis. There was then much trouble experienced in separating the prepuce from the glans, in consequence of the close adhesions formed between their adjacent surfaces. This accomplished, two cuts with the scissors, commencing at the base of the longitudinal incision, and extending from each side to the frænum itself, detached the portion of the prepuce to be removed, and finished the operation. There was very little hæmorrhage. No attempt was made to bring the mucous and cutaneous edges of the divided prepuce together: a fold of wet lint formed the only dressing.

7th.—A little hæmorrhage occurred in the night, and was arrested by cold water; the glans swollen and red; dry coagula sticking to the wound. The penis to be enveloped in a bread-and-water poultice.

8th.—The orifice of the urethra became plugged in the night with the secretions of the wound, and produced retention of urine, to the alarm of the parents and distress of the child. The obstruction was removed by a small catheter, and the urine passed readily. From this time cicatrization went on steadily, and was complete at the end of three weeks. There was no return of the hernia after the operation, and he was constantly under my observation for two months: at first in consequence of an attack of pemphigus, and subsequently of bronchitis. It is remarkable that the rupture should not have returned during the violent cough accompanying the latter disease, which in its latter stage approached more to the violent and convulsive character of hooping-cough.

I have seen the child this day, July 12th—seven months since the operation. He has remained perfectly free from the hernial tumor.

Remarks.—It is perhaps impossible to say how much the perfect rest observed by the little patient after the operation, in consequence of the soreness of the penis, and how much the operation itself, by removing an obstruction of the urinary passage, which necessitated frequent and unnatural exertion of the abdominal muscles, had to do with the happy result as relates to the hernia. But I think it quite fair and reasonable to suppose that the latter, *at least*, had the *larger* share; whilst, if this be allowed, it is entitled, in fact, to the whole credit, because it was the means of enforcing the former. It may be objected that the cure was spontaneous; and it must be admitted, I think, that the umbilical ruptures of young children do often obtain such a happy end. From a single observation, I would anxiously endeavour to avoid any hasty and unwarranted deduction. Still, I think it by no means a stretch of imagination to believe that in this case the operation and the subsidence of the tumor do stand in the relation of cause and effect. Should I again meet with such a concurrence of circumstances, I should again adopt a similar practice; and I should esteem it a favour on the part of any reader of these remarks who might meet with such a case, if he would permit me to see it with him, and, if disposed to try the practice, he would allow me the opportunity of watching the case with him, or would communicate to me the result.

3, Duchess Street, Portland Place,
July 12th, 1848.

ON THE

TREATMENT OF FRACTURES OF THE THIGH-BONE IN INFANTS,

IN THE FLEXED POSITION.

By Edward F. Lonsdale.

When fracture of the thigh-bone occurs in infants or in very young children, it is by no means an easy matter to prevent shortening of the limb, owing to the difficulty of maintaining the correct apposition of the two portions of bone. This difficulty all surgeons of any experience in the treatment of fractures must have met with. My attention has been more particularly directed to the subject lately, from many cases having come under my care at the Orthopædic Hospital, as well as two in private practice, the children having been brought for the treatment of existing lameness, in all of which there was shortening of one limb, owing to the thigh-bone having been fractured at a former period, and to the want of proper care in preserving the correct apposition of the bone during the treatment. On examining the limb carefully, the cause of the shortening was found to be owing to the extreme curve forwards of the shaft of the femur, and not to the lower portion being drawn up behind the upper (which is generally the cause of the shortening in adults). The result, however, is the same—namely, the approximation of the knee to the hip-joint, and a consequent diminution in the length of the whole limb.

The cause of this increased arch in the bone depends on the difficulty of keeping the upper end from tilting upwards, and of bringing the lower portion into the same line with it.

The bone then unites in an angle, causing the whole thigh to appear curved forwards; for in the majority of cases, as already stated, there is no retraction of one portion behind the other. In adults this evil is guarded against by the employment of the inclined plane; but in infants or very young children this apparatus cannot be employed, for there is the absence of sufficient weight in the pelvis and body, as well as the difficulty, if not impossibility, of keeping the child in the horizontal position—points essential to secure its action, and to preserve the correct line of apposition of the two portions of bone.

The treatment generally followed for these cases, and the one that I have hitherto employed myself, is to keep the limb in the extended position, by using long lath splints, extending from the hip down to the foot. (I am convinced that short ones, applied to the thigh only, cannot keep the ends of the bone in apposition.) The splint in the front should be the longest, and be made to pass up before the hip-joint as high as the crest of the ilium. A thick pad is placed on the upper portion of the thigh-bone. Great pressure, however, is required to insure the effectual action of the splints, as well as the necessity of keeping the child in the horizontal position, a position that is difficult and irksome in infants, more particularly during nursing.

Meeting with these difficulties, I turned my attention to the possibility of treating these cases by the flexed position, and have been enabled to do so by the following simple means, which, in the case of a child twelve months old, recently under my care, answered most satisfactorily; the correct apposition of the ends of the bone being preserved at the same time that the position of the child was less constrained and awkward.

I employ two narrow long strips of sheet iron, an inch wide, and thin enough to allow of being easily bent at any angle required, though sufficiently thick to bear the weight of the limb without yielding. They are applied as follows:—The child is placed on its back, and an assistant holds the limb in a position so as to flex the hip and knee joints, the angle of flexion being similar to that employed when the inclined plane is used for adults. The two thin iron splints are then bent at angles corresponding to the hip, knee, and ankle-joints, to adapt themselves to the limb, in the position in which it is being held by the assistant. An important point to attend to is, the proper length of the splint. The upper one should be long enough to pass up in front of the hip-joint, to lie flat on the lower part of the abdomen, and to extend down over the instep to the toes. The back one should extend up behind the buttock, being curved to fit its shape, as high as the posterior margin of the crest of the ilium, and long enough to extend down behind the heel to the sole of the foot. If the two splints are bent at proper angles, to correspond with the shape and position of the hip, knee, and ankle joints, they will, when firmly bound to the limb, keep it in the position required, which is one that most favours the correct apposition of the ends of the bone, by relaxing all the muscles. The limb must of course be evenly rolled before applying the splints, and the splints themselves be padded. The upper ends of the splints are to be firmly fixed to the pelvis, by passing the bandage many times round them, and occasionally reversing the direction of the bandage round the ends of the splints themselves, to prevent them being displaced laterally.

82, Guilford Street, Russell Square,
July 20, 1848.

NATURE OF THE VITAL FORCES NOT MORE OBSCURE THAN THAT OF THE PHYSICAL FORCES.

If we may judge by the tone of argument assumed by some of those who have written on the subject, it might be supposed that all the difficulties attendant on the investigation of natural phenomena were connected with those of life; whereas the reality is that we know just as much of the vital forces as we do of the physical. Who, for instance, knows anything of the nature of light, of heat, of electricity? or who can assign their intimate relations with the material substances necessary to their manifestation. But, as the want of this knowledge has been no barrier to the successful investigation of the conditions, laws, and effects of these subtle physical forces, so the absence of all acquaintance with the abstract character of the vital powers need be no obstacle to the most searching examination of the question now before us.—*Mr. Grainger's Hunterian Oration.*

MEDICAL GAZETTE.

FRIDAY, AUGUST 4, 1848.

Our space will not allow us to reprint the whole of the lengthy Report which has been forwarded to us by the Committee of the Convention of Poor Law Medical Officers, but the subject is of sufficient importance to claim a brief analysis. This will probably meet the wishes of the Committee, whose disinterested efforts we are desirous of aiding; and we are certain that it will be more acceptable to our contributors. The members of the Committee have long worked assiduously, and we are glad to find they have at length brought their labours to a practical conclusion. The evils of the present system have been clearly exposed, the remedies have been suggested, and it now only remains for the Legislature to sanction these by an act which shall henceforth secure a proper degree of relief to the pauper, and a just remuneration to the medical practitioner. It is easy to perceive from this report, that the Committee have had to contend with numerous obstacles in the profession itself. Every practitioner connected with a Union, has naturally enough been inclined to consider his own case as special, and one of peculiar hardship; but it is clear that no amelioration in the present system could be made, until all these unities had become amalgamated. In this the Committee appear to have succeeded, and have wisely brought before Government, only the more prominent grievances which affect the medical officers as a body. In carrying out their proceedings, they have been guided by certain resolutions passed at the Convention. These may be summarily stated as follows:—

"1.—That the highest qualification of a cultivated mind and professional capability, with great expenditure of time and physical strength, are perpetually called into operation through the Poor Law Surgeon for the benefit of the sick poor; that the present system is so essentially faulty, that the surgeon is invariably unfairly dealt by, and the sick poor are more or less injured.

"2.—That the payment given by Boards of Guardians is utterly out of proportion to the duties, exertions, and expenses which devolve on the Medical Officer, as well as to the advantages conferred on the suffering paupers.

"3.—That to remedy these grievances the Convention pledges itself, by its standing Committee, to use the most persevering and temperate means, to collect and digest information on the subject; to memorialize the Secretary of State for the Home Department, and the Poor Law Board, and to communicate with the Colleges of Surgeons and Physicians, and other influential and corporate medical bodies."

To elicit available information from a large body of men constantly and laboriously occupied in practice, was obviously no easy task. Nevertheless, returns were received from 434 Unions, comprising 805 Medical Districts,* a very fair proportion, and large enough to justify an appeal to the Government, as from the whole body. The necessity for removing from Boards of Guardians, the power of controlling the payment of medical officers, is plainly shewn in the following extract from the report:—

"By several of the returns, it appears, that on the issuing of the order of the Commissioners for the allowance of Extras, several of the Boards of Guardians, for the purpose of evading it, reduced the Salaries of the Medical Officers—others (a few only) gently constrained the medical officers to compound for all extras, by a small fixed addition to the annual salary;—whilst others *have systematically and rigorously evaded it, by peremptory instructions to the Relieving Officer* to send all

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* We think the Committee would have done wisely to have appended to this part of their Report, a table of the total number of Unions, districts, and medical officers, under the administration of the Poor Law.

> cases of accident, or cases requiring surgical operations, to the Hospitals to which the Board subscribes. This is much complained of, not on account of the mere loss to the Medical Officer of the fees, but for the injury and risk suffered by the patient during the removal—sometimes in carts over bad roads, for many miles."

This fact deserves the special attention of the President of the Poor Law Board. The argument for the existence of "local control," is very good in theory, but it fails when practically applied. It is incredible that such an unfair system of evading the orders of the Commissioners should be tolerated.

Out of 465 returns, there were 362 opposed to the plan of payment per case; while out of 466, there were no less than 428 who approved of the system of payment by a fixed salary, based upon the number of cases attended and the mileage. Of 424 returns, there were 351 who approved of payment by a fixed salary, founded upon the number of population and area, to be determined by the Commissioners. The large majority, therefore, approve of the plan of fixed salaries; they allege that if payment per case be adopted, the Guardians, Overseers, and Relieving Officers, in their anxiety to keep down the expenses, would refuse orders for medical relief in all but the most serious and dangerous cases; and thus the great majority of the paupers would be utterly unable to procure medical advice until their sickness had become desperate, and entirely disabled them. In addition to this, "the few cases for which orders would be given, would be of the most serious, and none of them of a trivial character, which would be most unjust upon the medical officer. His humanity would be unduly and incessantly taxed by attending upon pauper cases, which he would with reluctance see perishing for want of medical aid, but which he must administer at his own expense." These objections are forcible; although it may be said, in defence of the plan, that it establishes a proportion between the amount of work done, and the remuneration received, while it saves medical attendance upon a large number of trivial cases. Nevertheless, there can be no doubt that the general experience of the Union medical officers is in favour of a fixed salary, and the majority agree that it would be better to leave the amount of salary to be fixed by the Commissioners, than by the Boards of Guardians.

We have on various occasions endeavoured to prove that nothing could be worse than the anomalous and unequal manner in which payments for medical services are now made. We are by no means surprised to find, that according to a careful examination made by the Committee, "a rule obtains, wherely the remuneration *decreases* in the ratio that the duty *increases*—a rule so obviously unjust, that it requires only to be stated to be condemned." Thus, in the Axbridge Union

> "The Medical Officer of one district, attending only 200 cases of sickness annually, and working an area of only 7100 acres, receives, on an average, 3s. 6d. per case; whilst his colleague in the adjoining district, attending 1440 cases annually, and working an area of 17,420 acres, receives only 11d. per case. In the Northwich Union, in the Middlewich district No. 1, with an acreage of 9,446, and a population of 3,258, the payment amounts to 6s. 2d. per case; whilst in Weaver-lane district of the same union, the acreage being 15,610, and the population 5,641, the payment is only 10d. per case. Again, in the Grantham Union, the Grantham district, with an acreage of 11,818, and a population of 8,734, the payment is only 7d. per case; whilst in the Burton Coggles district of that Union, the acreage is 11,864, and the population 1,288, and the amount per case is as high as 7s. 1d.
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> "From the returns which have been made, it appears that throughout the

country the rate per case varies from as low as 3d. to 14s. 4d. The average rate of payment for each case of sickness, as ascertained by Returns received from 805 Medical Officers, is 1s. 6¾d. for the Metropolitan Districts within three miles of the General Post Office, and 2s. 7d. for the country districts—whereas the average cost of drugs, alone, for a single case occurring in the practice of the Surgeons to Dispensaries, who relieve the same class of persons as the Medical Officers of Unions, amounts to 2s. 1½d., and for Hospital cases to 4s. 4½d.

Who can doubt that under such a system grave injury must be done both to the medical officer and the destitute poor! It is true that the Poor-law Commissioners act as a Court of appeal from the decisions of the Boards of Guardians, yet practically the grievances complained of remain unredressed. Either the instructions of the Commissioners are utterly neglected, or their orders are pertinaciously resisted and evaded. So much for the local control exercised by Boards of Guardians, of which the new President appears to be a strenuous advocate.

We come now to the scheme by which the Committee propose to remove the more pressing evils of which the Union medical officers now justly complain. They are as follows:—

"1st. That in the opinion of your memorialists, it is essential that the payment of medical officers should be by a fixed salary, exclusive of fees for midwifery and important surgical cases.

"2d. That the amount of salary might justly be fixed, either by an estimate of the average of cases attended during a series of past years, considered in connection with the area of the medical district, or by the payment of a certain sum per head on the population, corrected by the consideration of the relative density and poverty of the district.

"3d. That making every allowance for the difference which must exist in the remuneration of private and public practice, it would not be just that the salary should be based on a less amount than 6s. 6d. per case, with the charge varying with the area.

"4th. That medical officers of workhouses should be paid a separate salary, based on the average number of inmates, at not less than 7s. to 10s. per head.

"5th. That it is just and proper, and conducive to the interests of the poor, that an extra payment should be made, as at present, for midwifery and for important surgical cases; and that it appears to your memorialists advisable that the fees should be paid for cases occurring in workhouses, as well as in out-door cases.

"6th. That to the cases of surgery requiring payment, enumerated in the General Order of the Poor-law Commissioners, should be added—

"Fractures of the clavicle;

"Fractures of the skull;

"Retention of urine, when requiring repeated introduction of the catheter.

"Severe burns and scalds;

"And that £3 be paid for compound fracture of the arm.

"7th. That the payments allowed for midwifery and surgical cases under the General Order of the Poor-law Commissioners are satisfactory in amount.

"8th. That in order to remove difficulties in the way of a more equitable payment of medical officers, and considering that half the Union medical expenses are already paid from the Consolidated Fund, it is highly desirable that the whole expenses of the medical attendance on the poor should be removed from Unions to the Consolidated Fund.

"9th. That it is expedient that there be a Director-General of the Poor-law Medical department appointed by Government, and exercising supervision over Poor-law medical practice, in the manner of the other public services.

"10th. That it is expedient that there should be Inspectors-General of Poor-law medical practice appointed by Government, and acting under the orders of the Director-General.

"11th. That the Inspectors-General acting each in a district assigned to them, should examine the Infirmaries of workhouses, inspect the reports of the medical officers, inquire into cases of alleged negligence, &c. &c.; and that matters of disputed payment should be referred to them.

"12th. That the medical officers of Unions should be appointed by Boards of Guardians as at present, subject to the approval of the Director-General; that their qualification should be as at present ordered, but that all future modifications of the qualifications should be made by the Director-General.

"13th. That the appointments of all medical officers should be permanent —that is, to endure until they die, resign, or are dismissed for some valid cause.

"14th. That the Forms of Books or Reports should be approved by the Director-General, and should be as short and simple as is consistent with the requirements of the public service.

"15th. That the access of the paupers to the medical officers should be made as ready as a due distinction between those who require parochial attendance, and those who do not, will admit. That in doubtful cases where illness exists, and there appears to be temporary destitution only, the Board may grant medical relief by way of loan; that in such cases a fee of
be paid by the Board of Guardians to the medical officer.

"Signed on behalf of the Committee,
"THOMAS HODGKIN, M.D.
"*Chairman.*"

There may be some difference of opinion about details, but the demands here made, appear to us to be not only reasonable and just, but absolutely necessary to the success of any measure of Poor-law medical reform.

It would seem that the subject of medical ethics has incidentally fallen under the notice of the Committee. The following remarks, which are especially addressed to those members of the profession who are eager to secure appointments which are proved to be both laborious and unremunerative, may be appropriately applied to the present state of the Upton Union*:—

"All matters of personal grievance between medical gentlemen must surely be beyond the bounds of the Committee's deliberations and interference: yet, within the past few months, several cases have been pointedly pressed upon their notice, in which their adjudication was sought in reference to professional etiquette and the sins of competitive antagonism. Deeply deploring the occurrence of such cases, the Committee would earnestly impress on the Poor-law medical officers the vital importance of disinterested co-operation, and the cultivation of the Christian spirit of doing to others as we would that they should do to us. Under the present pressure of a redundant population and competitive struggle, one man's interest must often cross his neighbour's; but every wise man will feel that he damages himself when he accepts an appointment which he can only hold at the sacrifice of a rival's *due*, and the compromise of his own character as a gentleman. No greater obstacle to a systematic improvement of the present plan of Poor-law medical relief exists, than in the readiness with which medical men are found to accept situations which others have resigned under an indignant sense of ill-usage and a stingy payment. A strong, but erroneous impression, possesses the public mind that this willingness to take office under a system denounced as so bad, arises, after all, from some unexplained sinister advantage accruing to the medical attendants on paupers. If professional gentlemen do not become true to one another, it is to be feared no Convention can suggest, nor Government legislate, for the best interests of even the Poor-law medical staff."

It is clear that an evil of this kind can be remedied only by the profession itself. No Act of Parliament can prevent men who are so disposed from overreaching each other.

Although there is no immediate prospect of legislation in the medical department of the Poor-law, yet it is a considerable step towards a sound measure of reform, that a series of practical suggestions are now for the first time laid before the public. It merely requires the goodwill of the Government to mould them into shape, and to enact them into a law.

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* See our last number, pp. 117 and 127.

Reviews.

Lectures on Diseases of the Eye. By JOHN MORGAN, F.L.S. 2d edition, carefully revised and enlarged, with Notes by JOHN F. FRANCE, Surgeon to the Eye Infirmary, and Lecturer on Ophthalmic Surgery at Guy's Hospital. 8vo. pp. 222; with eighteen coloured plates. London: Highley, 1848.

IT is hardly necessary to say that the late Mr. Morgan had acquired a well-deserved reputation for his practical acquaintance with diseases of the eye, and that his "Lectures" have for some years been regarded as a work of reference and authority. The necessity having arisen for a new edition, the preparation of the treatise for the press, has been entrusted to Mr. J. F. France, the friend and successor of the author. This gentleman, who has already earned a good reputation as an ophthalmic surgeon, has shewn much judgment as an editor in leaving the author to speak for himself. The additions which he has found it necessary to make are printed at the termination of each section in a smaller type, and in the form of practical comments.

Mr. Morgan's work has been long out of print, and we are glad to welcome the appearance of a new edition under such favourable auspices. The necessity for works of this stamp is the more apparent, because probably there is no department of surgery in which quackery is more predominant than in that which relates to the treatment of diseases of the eye. We have here in a concise form the accurately recorded results of experience, as well as clear rules for diagnosis and treatment. Mr. Morgan's lectures were always practical: the time of the student was not taken up with the discussion of the theoretical views of ophthalmic surgeons; nor were his pupils bewildered by the details of a dozen conflicting methods of treatment.

The Diseases of the Eye are arranged by the author in distinct sections, methodically divided into paragraphs, commencing with *Symptoms* and *History*, and terminating with *Treatment*. In treating of *Catarrhal Ophthalmia*, Mr. Morgan makes some strong observations on the injudicious methods which are often adopted for the examination of an inflamed eye. He observes, that—

> "The object is to separate the inflamed surfaces of the conjunctiva of the lids and globe at the time of opening the eye, and to avoid making any pressure upon the part: this will be easily accomplished, unless excessive tumefaction oppose an obstacle, by gently drawing down the integuments of the lower lid towards the cheek with the fore-finger of one hand; and, with the thumb or fore-finger of the other, drawing up the skin covering the upper lid towards the supra orbitar ridge: the third diagram represents this process. In opening an eye, carefully avoid throwing strong light upon it, as otherwise the operation is sometimes rendered difficult, from spasmodic contraction of the orbicularis palpebrarum; and in cases where the retina has been rendered morbidly irritable, temporary increase of vascularity will generally be the consequence of neglecting this precaution." (p. 25).

While on this subject, we shall introduce some remarks on the treatment of this disease by Mr. France—

> "In a large majority of cases, catarrhal ophthalmia is a purely local affection, and demands no further constitutional treatment than a gentle purgative. It is, however, particularly apt to occur in a mild form in suckling women, especially if the subjects of leucorrhœa, or if lactation have been protracted beyond the natural term, or if from any other cause the constitution be unable to meet vigorously the call made upon it. In such cases it is usual to find a constipated condition of the bowels; and this may effectively be relieved, at the same time that general debility is combated, by a mixture composed of ten or fifteen grains of carbonate of magnesia, six drachms of infusion of calumba, and the same quantity of mint-water. Various other medicines calculated to fulfil the same indications may probably serve equally well; the above is that which the editor is in the habit of prescribing with satisfactory results. A weak solution of nitrate of silver constitutes a local application which, from its universal efficacy in this disease, is almost entitled to the character of a specific. Two or three drops of a collyrium, consisting of a grain or a grain and a half of this substance dissolved in an ounce of rose-water, should be instilled upon the inflamed membrane thrice daily, and generally the remedy acts with a degree of celerity and certainty in subduing the disorder in its recent stages, quite surprising to those unaccustomed to its use.

As a rule, this application is not beneficial when intolerance of light is present; but it must be borne in mind that, in so far as intolerance of light is manifested, does a given case depart from the normal type of catarrhal ophthalmia, and assume the characteristic of the strumous disease: with this proviso, the practitioner may employ the above-mentioned collyrium in cases of catarrhal ophthalmia with the utmost confidence in its curative powers. Risk of inducing discolouration of the conjunctiva is only incurred by long-continued use of a solution of the strength now directed, or the employment of one containing a considerably larger proportion of the nitrate. But, for the disease under consideration, neither of these chances need be run, as a few days' continuance of the collyrium now directed is usually sufficient for the cure. In chronic cases nitrate of silver is less beneficial; while the objection to its use gathers weight, since long perseverance with local astringents is then required." (pp. 25-6).

The subject of ophthalmia, in the variolous, purulent, and strumous varieties, occupies a large portion of the volume, and is satisfactorily treated, both in relation to diagnosis and treatment.

The following extract from the section on *Chemosis* has some interest in relation to the anatomy of the eye:—

"In some cases of chemosis there is an appearance interesting both to the anatomist and the pathologist, as it affords to the former a perfect proof of the existence of a structure he might not be able by dissection to detect, and to the latter a guide for the treatment of his patient—I mean chemosis of the corneal conjunctiva, the occasional occurrence of which demonstrates, notwithstanding the impossibility of separating the parts in the healthy subject, that the conjunctiva does form an anterior covering to the cornea. To the surgeon and pathologist, the occurrence of corneal chemosis gives an assurance that acute disease is not present; for in acute inflammatory chemosis, the bagging forward of the conjunctiva scleroticæ conceals the circumference of the corneal portion of the membrane, at which place corneal chemosis almost invariably commences." (pp. 89-90).

A man may be acquainted with a remedy, but not know how to employ it with benefit to the patient. Thus, in cases of *granular conjunctiva*, where it is desirable, in applying nitrate of silver, to avoid staining the conjunctiva of the globe, it is recommended that the following plan should be resorted to:—

"In applying the Argenti Nitras, or any other astringent (fluid, solid, or unctuous), to a diseased eyelid, first evert the lid, and hold it well away from the globe; dry its conjunctival surface with a piece of linen, and immediately make the application. Directly afterwards dry it again, and apply some mild unirritating ointment; wipe this off, and make the application of ointment once more. You may then be almost certain that whatever astringent has been applied to the conjunctiva of the lid will leave that of the globe untouched: an object, the desirableness of which must be obvious, when you consider the effect strong local applications would produce upon the surface of a healthy membrane." (p. 94).

In reference to the treatment of *opacities of the cornea*, Mr. France makes the following observations:—

"The prognosis with respect to opacities of the cornea must be drawn from an estimate of the age of the patient, the density of the opacity, and its duration; the younger the individual, the less dense the nebula, and the shorter the period of its duration, the better being the prospect of its entire removal. In young children the opaque cicatrix following actual ulceration is susceptible of perfect cure. It is not often, however, that resort to mercury, so as to affect the system, is called for in the treatment of these cases. After the subsidence of inflammation, local measures are more to be depended upon; and in addition to the applications mentioned in the text, there are two which deserve especial notice. Calomel, inflated as powder upon the cornea, is, in certain cases of nebula in which vascular excitement has quite passed away, of excellent service; and the same credit is due to iodide of potassium dissolved in water in the proportion of six or eight grains to the ounce. Of the use of hydrocyanic acid vapour for the same purpose, the editor has no satisfactory experience, but can recommend the remedies now named, together with those previously specified, as worthy of the fullest reliance." (pp. 105-6).

There is but little to be said with respect to *Amaurosis*. Glaucoma is not necessarily a sign of this morbid state: many persons, whose vision is perfect, are glaucomatous; but when glaucoma accompanies amaurosis, the case is generally hopeless.

An amaurotic patient, it is well known, looks directly forward, with a peculiar vacant stare, as if "staring into space"; and this appearance is so highly characteristic, that, when amaurosis is combined with partial opacity of the humours, it may be thus readily distinguished from cataract. Of the treatment of amaurosis, the author observes—

> "Amaurosis is sometimes attended by congestion, sometimes by want of active circulation in the part, and now and then by functional derangement in the nervous system unattended by any obvious indication of altered action. In congestive amaurosis, you may observe, to greater or less extent, a turgid state of the veins of the head and vessels of the conjunctiva: it is usually met with in plethoric subjects. In such cases, the object being to lessen action, antiphlogistic measures must be adopted. General and local depletion, and a brisk cathartic, are therefore required in the first instance. If there is reason to believe that the disease is kept up by sympathy with a morbid condition of the digestive or other organs, the remedies best calculated to remove the existing cause must be exhibited. The patient should of course avoid stimulants, and be kept on low diet.
>
> "In the next place, you should give mercury with a view of affecting the system; and if, after a few weeks, the exhibition of this remedy produce no alleviation, the case will probably-terminate unfavourably.
>
> Mercury is as much a specific in congestive functional amaurosis as in syphilic iritis; and when it fails to effect a cure, all other remedies are commonly useless. How mercury acts in these cases has not been explained, farther than that it produces a salutary effect by its operation upon the capillary system.
>
> "In congestive functional amaurosis, then, deplete, affect the system with mercury, and attend to the healthy condition of the constitution generally. In the incipient stage these remedies will arrest, and in many cases remove, the morbid action; but when the disease has been allowed to gain ground, and the sense of vision is once lost, or nearly so, you will hardly ever be able to save the organ. Incipient amaurosis is under our control; complete amaurosis is rarely benefited by medical treatment." (pp. 169-70).

Some space is devoted to the subject of Cataract, and the operations required for its treatment. For an account of these we must refer the reader to the work itself. The coloured lithographic plates attached to the volume, aid considerably the descriptions given in the text of the diseases of the eye and the operations required for their treatment.

A biographical notice of the author, which appeared originally in this journal, is prefixed to the volume. The mode in which the second edition has been revised and edited is highly creditable to Mr. France.

Proceedings of Societies.

ACADEMY OF MEDICINE, PARIS.

July 4, 1848.

M. Rayer-Collard, President.

ON A CASE OF DEATH CAUSED BY THE INHALATION OF CHLOROFORM. BY M. GORRÉ, SURGEON-IN-CHIEF TO THE HOSPITAL OF BOULOGNE; CORRESPONDING MEMBER OF THE ACADEMY OF MEDICINE, PARIS.*

Mlle. Stock, a young person 30 years of age, well formed: enjoyed habitually good health. I ought to state, however, that she had consulted me some months previously for palpitation, which appeared to me to depend on a chlorotic state, and on which preparations of iron had the happiest effect. Her health since then had experienced no change.

Some weeks since she was thrown out of a carriage, and besides some contusions, the result of the fall, she was wounded in the thigh by a splinter of wood, which made its way beneath the skin, without leaving any trace besides a very small laceration, and the presence of which was not then recognized. Her medical attendant applied some leeches over this point. Fluctuation being soon manifest, he proposed an incision, but the patient refused. Some days afterwards pus escaped in some quantity through a spontaneous opening, and as the suppuration did not cease, I was called to the case. I easily made her understand that a free incision was necessary for her complete recovery. She now consented, but on condition that I should put her under the influence of chloroform. I had no reason to refuse her request. I went next day with some chloroform, the good quality of which cannot be doubted, as it was supplied from the Chemical Laboratory of Quesneville.

I found my young patient in her usual good spirits, free from all fear: her usual medical attendant was present, and a midwife, to render assistance. Everything being ready for the operation, in itself very insignificant, I placed over the nostrils of the patient a handkerchief moistened with from fifteen to twenty *drops at the most* of chloroform.

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* We here give in a more complete form, a full history of the alleged case of poisoning by chloroform vapour in France.

Scarcely had she taken several inspirations, when she put her hand on the handkerchief to withdraw it, and cried with a plaintive voice, "I choak !" Immediately the face became pale; the countenance changed; the breathing embarrassed; and she foamed at the mouth. At the same instant, (and that certainly *less than a minute* after the beginning of the inhalation), the handkerchief moistened with chloroform was withdrawn. But persuaded that the bad symptoms were only evanescent, and that it would suffice for the effect to cease to have suppressed the cause, I hastened to pass a director into the small fistulous wound in the thigh, and to lay open the abscess in its whole extent—that is to say, between two and three inches, and I withdrew from the bottom of the wound a small, thin, and pointed splinter of wood. During the infinitely short time occupied by this little operation, my colleague sought by every means to remedy the threatening annihilation of life. I joined him, and both of us put into force with activity the measures most likely to prevent a fatal issue.

Frictions upon the temples and the precordial region, throwing cold water on the face, tickling the fauces with a feather, blowing air into the air passages, ammonia to the nostrils, everything that it is possible to do in such a case, was tried by my colleague and myself, during more than two hours. We were willing to believe that there was only a suspension, not an abolition of the sensorial functions. It seemed impossible that the inhalation of so minute a quantity of the anæsthetic agent during so short a time, (not, indeed, calculated by the watch, but certainly not more than a minute) had been sufficient to extinguish life. Our efforts were vain !

This death, though we clung to the belief that it was but apparent, was real; and it had been so prompt, that already it was without doubt complete at the moment when I made the incision. I can only give a just idea of the lightning-like rapidity with which it was produced, by saying that it recalled to me most accurately death from the accidental introduction of air into the veins. The details of the very minute examination give value to this analogy, the idea of which struck me when observing the symptomatic expression of the last moments of life.

Autopsy, 24 *hours after death*.—Exterior aspect. The right side of the face presents several large eschars, the skin being as it were parchment-like: these eschars are due to the ammoniacal frictions made to recal life. Complete rigidity of the limbs; cornea dull; abdomen distended with gas; a blood-stained bandage covers a wound at the internal superior part of the right thigh.

Head.—Scarcely any blood flows from the cutaneous incision. The superior longitudinal sinus is empty; the veins on the convex surface of the brain are not engorged, but they present this remarkable peculiarity, that the column of blood is broken every here and there by bubbles of gas. These veins when punctured, collapse, owing to the escape of the gas. There is also air in the veins at the base of the skull. Numerous bullæ of air escaped with the blood from the ophthalmic veins, the cavernous sinuses, and the inferior cerebral veins. The lateral ventricles contain a moderate quantity of serum. The substance of the brain is firm; no drops of blood escape on cutting into it.

The air escapes, bubbling up in the midst of a remarkably black and very fluid blood, from the internal saphena and the left crural veins. The crural artery is entirely empty.

The right thigh presents, on the inner side of it, in the upper part and somewhat backwards, a wound made in opening an abscess. This wound, made through the skin and cellular tissue, is stained with black blood; the vena saphena is at a distance from the incision, and could not have been touched by the bistoury. The universal presence of air in the circulatory system called for a careful examination of the blood-vessels near the wound: dissected with the greatest care, they are found to be perfectly entire.

Chest.—The lungs, especially the left, are voluminous, and visibly engorged in the lower lobes. When cut into, a large quantity of very black fluid blood escapes. Remarkable crepitation; pulmonary vesicles dilated by the air blown in during the last moments of life, with a view to reanimate the patient, supposed to be in a state of asphyxia. Neither interlobular nor subpleural emphysema; the tracheal mucous membrane is of a bright red; complete absence of froth in the bronchi; some amount of serum in the pleura and pericardium; heart excessively flaccid, of the usual size; right and left cavities absolutely empty. Not the smallest clot either in the auricle or between the fleshy columns of the ventricles; frothy blood in the orifice of the ascending cava. The pulmonary veins, opened near the auricle, allow a little blood to escape, mixed with air. The internal membrane of the heart, especially of the right cavities, is red. Its tissue is pale, and tears easily.

Abdomen.—Liver very voluminous, its colour like the lees of wine; on cutting into it, air bubbles out of the vessels along with much black and fluid blood; the intestines are distended by fœtid gas. The spleen is softened, and is gorged with blood; on pressure, several bubbles of air escape from its substance.

In closing the account of this autopsy, I have particularly to notice that the blood was blacker than it is in simple asphyxia. *It* *was literally as black as ink.* The above post-mortem appearances lead me to the following conclusions, which I submit to the consideration of the Academy :—

Mlle. Stock did not, properly so to speak, die from asphyxia. According to all probability, her death was due to syncope, caused by the sudden suspension of the cerebral functions under the influence of chloroform.

The presence of air in the venous system cannot be explained by the introduction of air into a vein imprudently opened when the incision was made in the thigh. The incision being altogether superficial and cutaneous, could not reach a vein of large size.

Nor yet was it the artificial respiration which caused the air to find its way into the circulation through the rupture of the pulmonary cells; for at the moment when the artificial respiration was resorted to, life was extinguished, if it had not been already abolished, and the action of the left side of the heart had ceased.

Thus, by shutting out other causes, one must admit, as the most probable view, the spontaneous formation of air in the veins. Was this fluid produced during life or after death ?

Morgagni relates cases of sudden death, in which the autopsy revealed a large accumulation of air in the heart and great vessels, without any possible external origin. In these cases decomposition had not commenced, and no organic change accounted for the death. M. Olliviers (d'Angers), has related analogous examples, which led him to admit the possibility of the disengagement of a gaseous fluid during life, which kills after the same manner and with the same rapidity as if air had penetrated accidentally through the opening of a venous trunk contiguous to the heart.

I am consequently induced to think that the above case must be added to those singular cases of pneumatosis related by Mery, Littre, Morgagni, and, among ourselves, M. Ollivier (d'Angers). In this case, it appears to me that the rapidity of the death is due to a complication of causes—namely, first, to the special deleterious influence of the chloroform upon the brain, which led, as the immediate consequence, to the abolition of the sensorial functions; and secondly, to the spontaneous development of gaseous fluid in the circulatory system, the probable result of the hitherto unexplained action of the ethers upon the blood, under the circumstances related.

Whatever may be the value of this explanation, one thing is certain, resulting from the case just related, and from that reported in the Lancet, that the chloroform, in certain kinds of constitution, which it is absolutely impossible for the man of science to recognize, may cause death with a lightning-like rapidity. Even in experienced hands, there is no certain safe-guard against the unfortunate consequences of this agent, which only too well justify the words applied by M. Flourens to chloroform, "*a marvellous and terrible agent.*" Finally, the dangers indicated by M. Bouisson of Montpellier, and Sedillot of Strasburg, are but too real, and in face of the dangers now so thoroughly realized it would be the highest imprudence still to employ chloroform, as has been done hitherto, for insignificant operations—such as the drawing of teeth, opening an abscess, and the application of a moxa. In future, chloroform should only be exhibited for great operations. In fact, important advantages only can compensate for the risk incurred by the patient—a risk necessarily incurred even in acting with extreme circumspection.

M. Velpeau.—There are two things to be considered in relation to the case just related,—the case itself, and the consequences to be derived from it. The case is singular, isolated, and so much the more extraordinary, that instead of 15 or 20 drops of chloroform being placed over the nostrils of patients previously to operation, there is usually as much as from 2 to 3 drachms. And yet no accident of importance occurs. Remark, that such instances may now be related by thousands. No operation is performed in the hospitals without the employment of chloroform, and yet the surgeon would reject this agent; although, indeed, he could not, for the patients themselves would insist upon its use. The chloroform is, I say, free from danger, except perhaps where its use is too much prolonged, and even in such cases the means used ro recal the patients to themselves must go for something.

I am not, then, convinced that the death of this case can be altogether attributed to the chloroform. M. Gorré ascribes it to syncope. He speaks also of the introduction of air into the veins: I own that this appears to me very improbable; on one account, because no vein of importance was wounded, and on another, because the operation was performed on the thigh,—very far, consequently, from the centre of the circulation. On the inspection there was found, he says, a great quantity of air in the vessels. That is not astonishing: the inspection was not made until twenty-four hours after death, and in the month of May, in warm weather. Perhaps there has been a coincidence, unfortunate without doubt; but yet all surgeons know that there is no operation, however trifling, but it may occasionally cause death. I prefer this explanation to that of M. Gorré; otherwise we must absolutely renounce the use of chloroform in all surgical operations, great or small.

M. **Moreau.**—I am not so certain as M. Velpeau of the perfect safety of chloroform. Here is a case to place beside that related by M. Gorré. I learn from M. Robert, surgeon of the Hospital Beaujon, that after the employment of chloroform he was about to take the knife to cut off the thigh, when his patient suddenly died. I have to add that the case shall be communicated to the Academy in all its details.

M. **Honoré.**—Sudden deaths at the moment of operation have been spoken of: here is an instance, of which I was witness. About a year since I saw a patient who suffered from very severe pain in the bladder. This man was excessively excitable, and of a remarkable susceptibility. M. Civiale was called in; he sounded him, and discovered a calculus; but he shewed such excessive excitement that M. Civiale refused to operate. Some time afterwards the pain returned; M. Civiale was called on to operate: he introduced the catheter, and the patient died suddenly.

M. **Roux.**—I would first reply to M. Moreau, that before we can reason on the case he has related—before accusing chloroform—we must wait for the communication of M. Robert. At present I address myself to the case of M. Gorré, although M. Velpeau has in great part said what I meant to say; for it appears that we have both received the same impressions from this recital. And first, I declare that if it can be proved that chloroform can, either at the time or afterwards, directly or indirectly compromise the life of the patient, it would be necessary to renounce its use without hesitation, not only in small, but also, and still more, in great operations; for it cannot be permitted to the surgeon to add to the danger of an operation the danger of additional steps. But I own that I partake with M. Velpeau the doubts expressed by him as to the cause of death assigned by M. Gorré; and I repeat, that so many operations have been performed under the influence of chloroform, and these operations have been so happy in their results, that it would be imprudent to condemn a means so precious for a misfortune which it possibly did not occasion. I question whether the manner in which M. Gorré administers the chloroform is free from objection: he impregnates with it a handkerchief or a sponge, which he applies under the nose. In this manner the patient inspires the chloroform vapour without air, while, when inhalers are employed, the vapour of chloroform is always diluted with air. On the other hand, I ask if the external air has not penetrated into the veins, not indeed by the veins of the thigh—they are too far from the heart—but by the pulmonary veins, which might be ruptured in the efforts of respiration. That the air penetrates thus was a conjecture of Morgagni's adopted by Bichat. Once, a very long time since, I opened a body with Bichat; on opening the cranium we were struck with the quantity of air spread through the sinuses and veins. We inquired into the employment of this man, and we learned that he was a shoemaker, and that he died suddenly while making a strong effort. Bichat supposed that during this effort the air was introduced into the venous system. Why might it not be thus with the patient of M. Gorré?

M. **Baillarger.**—I do not pretend to give an explanation of the unfortunate case communicated to the Academy by M. Gorré, but in relation to the dangers of chloroform I think it right to remind you of its influence on epileptics. We know, from the trials made at the Bicêtre by M. Moreau, that the inhalation of chloroform not only excites epileptic fits, but that the fits have then an extreme degree of gravity. A military surgeon has taken advantage of this special action to recognize the reality of epilepsy among the conscripts who have asserted themselves to be subject to that disease. It is, then, prudent to forbid the use of chloroform in persons afflicted with convulsive affections, and this is a precaution that surgeons ought not to neglect to take. In this case the patient had no convulsions, but foam was observed on the mouth. Has the chloroform excited here one of those epileptic paroxysms that put on the form of syncope, and in which there are no convulsions? On this point we can only throw out conjectures, but these conjectures would merit serious consideration, if the lady, aged thirty years, who has died so suddenly, had previously had any convulsive ailments—a point which has not been mentioned in M. Gorré's communication to the Academy.

M. **Bussy** asked if the quality of the chloroform had nothing to do with the death of the case communicated by M. Gorré. This is worth verifying; and it would be well to write to M. Gorré to send a small quantity, that it may be tried on animals.

M. **Velpeau** answered that the chloroform used by M. Gorré came from the laboratory of M. Quesneville, and everything would lead us to believe that it was very well prepared.

M. **Gibert.**—I wish to make two remarks, one on the probable cause of death in this case, and another on the practical and usual employment of chloroform.

The explanation of the death by syncope, adopted by the author, appears to me inadmissible. All the details of the case seem to establish that the sudden death has been caused by the introduction of air into the veins, due probably to a rupture of the pulmonary vascular tissue, as in the case cited by M. Roux. Syncope, they say, has only negative characters; I believe, from some facts that I have observed carefully, that there are cases in which syncope may be characterised in the dead body by the absence of blood in the right cavities of the heart and in the great venous trunks: this is contrary to what one generally sees in the dead body, and it is explained, without doubt, by the sudden suspension of the left side of the heart.

For the usual employment of chloroform, I declare that, while I defer to the high surgical experience of M. Roux, I persist in believing that the best mode of administering it is also the simplest and easiest,—that which every one has at hand, and which good common sense points out,—that is to say, the use of a handkerchief impregnated with chloroform, and which it is not necessary, as M. Roux conceives, to apply exactly over the nostrils in such a manner as to hinder the mixture of air with the vapours of chloroform.

The inhalers employed either for the administration of ether or chloroform are more or less inconvenient and annoying, and it is to them, whether from the difficulty of breathing through the inhalers, or the moral effect produced by them on some individuals, that we must attribute various disagreeable results in different individuals, and the difficulty of exciting in them the ordinary effects of the anæsthetic agents.

M. Piorry.—Three things have been spoken of—

1st. The introduction of air into the veins. It results, from published experiments made by me long since on rabbits, that the inflation of the lungs of rabbits with air sometimes causes sudden death,—not because of pulmonary emphysema, but from the penetration of air into the veins. We find, in fact, the elastic fluid in numerous bubbles in the heart and great vessels: it is then probable, but only probable, that in the adult a strong inspiration, followed by a forced and difficult expiration, may result in the penetration of air into the veins, and death.

2d. I have not studied the action of chloroform on the hysterical and epileptic, but this I can say, that the inhalation of ether, tried by myself when it was first introduced into practice in France with a view to meet and prevent the paroxysms of hysteria, gave rise to terrible effects, particularly in one female; and in spite of some partial success, I have not dared to have recourse to it anew.

3d. As to syncope: it would at first be well to know what is meant by that word. Many organopathic states are so named: there are some in which there is no blood in the heart, as in death from hæmorrhage; there are cases in which the blood is abundant in all the cavities of the heart, while it is deficient in the brain;—in fine, it may be that in certain cases there is no blood in the right, while there is blood in the left cavities; but this is an observation which I have not verified by experiments on animals, which are here of great importance.

M. Amussat remarked that he has demonstrated that sulphuric ether and chloroform act both of them in the same manner: they cause the death of animals by asphyxia. With regard to the modes of administration, the most simple are the most dangerous. In every case he finds it necessary to act with great caution. When the operation is long, he suspends from time to time the inhalation of chloroform; and with this single precaution he has never seen a fatal case; but he is always alarmed when the patient does not promptly recover consciousness. As to the entrance of air into the veins through a wound of the thigh, there is no example of such an occurrence.

M. Castel corrected an inaccuracy in language. Death is not caused by syncope, but by the cause which produces the syncope.

M. Rayer-Collard, President, asked leave to make a remark on the case the subject of the discussion. They have spoken, said he, of the patient from whom Dupuytren removed a large tumor seated between the shoulders, and who died suddenly under the knife. This circumstance has never been related as it occurred; I know, for I was present when it occurred. They say that Dupuytren heard a noise, a hissing, caused by the penetration of air into the vessels; and they have put into his mouth words which he never uttered. Dupuytren did not know to what to attribute the sudden death: he spoke at first of the exhaustion of sensibility; it was not until the next day, after having observed the heart and great vessels, that he suspected the introduction of air.

M. Duval.—They have spoken, he said, of syncope; I have been several times witness of this morbid state: I have seen swoons that have lasted several minutes. Among all the means for bringing the patient out of this state there is one but little known, and which I have several times found efficacious, frictions with the essence of mint upon the gums (!)—*L'Union Méd.*

It is evident, from the above ample report by M. Gorré, that in this case of alleged death from chloroform at Boulogne, the death was complete before the operation was performed.

In criticising the procedure in this case, it must be understood that the remarks apply to our present extended knowledge of the action of chloroform, and to what it would be right to do in a similar case in future. M. Gorré is not to be blamed: he was ignorant of the dangers of the agent—an agent employed apparently in every operation in Paris, trivial or great!

The following errors were committed in administering chloroform to this case:—

The operation was insignificant, and therefore did not warrant the use of chloroform.

The patient had suffered from palpitation, and therefore she was not a proper subject for its administration,—illustrating the remarks made in the paper on Death from Chloroform, in the GAZETTE of July 21.

M. Gorré, the operator, himself gave the chloroform, and therefore left his patient, so far as chloroformization was concerned, at the critical moment—operating, indeed, when she was lifeless!

The chloroform was given on a handkerchief: in the North this is thought the best plan, not so in England. But granting that it was right to use a handkerchief, the mode of using it was altogether wrong: it was placed, it appears, close under the nostrils at the beginning of the operation; it was not given largely diluted at first, gradually increasing the dose, but it was sent suddenly into the lungs and heart in the most concentrated form. The heart almost seems to have been dead even before she lost consciousness. Immediately after crying, "J'étouffe!" her face became pale, and she appeared lifeless.

The operation ought not, under the circumstances, to have been performed at all. At the very time it was performed, M. Gorré's colleague was seeking by all means to restore life.

Everything was, indeed, done to restore life, as will be seen in M. Gorré's admirably honest naïve description, and that, too, for two hours after life was absolutely extinct. "Vain efforts!" Everything was done in consternation, and without order. What could frictions to the temples and præcordia do but lose time? Ammonia—she was far beyond the reach of that stimulus; even electro-magnetism would not have roused her; even M. Duval's sovereign remedy—frictions with the essence of mint over the gums—would have failed. Artificial respiration was performed, but *how* and *when* does not appear. It ought to have been instantly resorted to, and ought to have been combined with the active application of general external warmth, stimulants, and friction. From the result in this case, and in the three or four other fatal cases, these means would probably have been vain; but if anything could have been of service, they would.

From the autopsy, and from the description of the death-scene, it is certain that the instant death was from paralysis of the heart: the face suddenly became pale; the heart was flaccid.

The heart was quite empty. How could a heart that could not contract empty itself? The left ventricle is most usually rigid, and it is empty. It has wrung the blood out of itself during its last effort. The right ventricle is usually full of blood, its walls being flaccid. I have often, when taking diagrams of the internal organs, distended the lungs to the full, the trachea being tied, and the chest unopened. In these instances I usually found the heart quite empty of its fluid contents. The lungs, when distended, pressed in upon the flaccid heart in every direction, and so compressed and emptied its cavities. The artificial inflation of the lungs that will empty the heart when it has ceased to act, and its walls are flaccid, is very different from artificial distension of the lungs when the heart is active, and the blood leaves it, and returns to it with systematic regularity. I have seen an ass, apparently dead from wourali, but the heart beating, return to life after *seven hours* of artificial respiration.

It is very difficult to account for the appearance of air in the veins. M. Velpeau's suggestion, that it was from putrefaction, can scarcely be correct. The brain even was firm. M. Amussat found air in the veins of rabbits who died suddenly during the artificial inflation of their lungs. It is easy to see how by this means the air found its way into the pulmonary veins. But if it was thus injected into the whole venous system, how came it that the veins everywhere contained much air, while the heart was absolutely empty, it not being stated that there was air in any of the arteries? It is evident that if the air entered the circulatory apparatus in the lungs, it must have passed through the heart, arteries, and capillaries, before it could reach the veins. Is it possible that the heart and arteries could have entirely emptied themselves after conveying the air to the veins? While this mode of accounting for the presence of the air cannot be absolutely rejected without farther inquiry, we may at once reject the supposition of MM. Roux and Amussat, that the air entered through ruptured air-cells during the final struggling inspiration and expiration. It is not stated that they were made with remarkable effort. The circulation in the face had already ceased.

From the interesting discussion that followed the recital of the case, it appears that another death from chloroform has occurred in France, in the practice of M. Robert. This patient, too, died suddenly when M. Robert was taking the knife to amputate at the thigh. The details of this case have been promised to the Academy.

Some of the opinions offered by the great surgeons present are well worth weighing. This must be acknowledged—that the meaning of the term "syncope," as a cause of death, is very ill defined, and is applied, as M. Piorry says, to several distinct conditions. In syncope from mental influence, the face becomes suddenly pale, respiration very slow, and the pulse very feeble or imperceptible, often slow; consciousness disappears, the pupils being dilated. These phenomena are simultaneous—due to some mental influence. I have observed a woman faint on seeing a wound on another person's finger. Such cases rarely die, and the state of their internal organs is uncertain. The capillary circulation at the surface is instantly arrested, the influence being transmitted by the nerves direct from the brain. I believe that the heart's action is oppressed by the sudden suppression of the capillary circulation, not by the direct transmission of an influence from the brain.

In syncope from loss of blood, the heart's action will be diminished or arrested, from the comparative or absolute want of blood for the heart to act upon.

In death by syncope from heart disease, the heart is absolutely paralysed.

In M. Gorré's case, the death was from true syncope, from the cessation of the heart's action, due to the direct action upon its walls of chloroform, a powerful poison, carried to them in its most concentrated form by the coronary arteries. In this case, and the three other deaths from chloroform, the heart's action and respiration ceased simultaneously: they were true cases of death from syncope.

The so-called "death from syncope," caused by tobacco and digitalis, is usually not really death from syncope, but from a variety of asphyxia. Sir Benjamin Brodie poisoned an ass with tobacco: the heart's action and respiration ceased simultaneously; the heart was much distended. On stimulating the heart, and keeping up artificial respiration, its action was renewed. The heart ceased, because of the temporarily impassable barrier to the flow of the blood through the pulmonic capillaries. When the distension was lessened, the heart's action recurred. The heart's action was not destroyed, but overpowered.

In dogs, as M. Amussat correctly states, chloroform and ether usually kill by asphyxia: the respiration ceases before the heart's action, and, by artificial respiration, suspended animation is restored. Unfortunately, in the cases of death in man hitherto recorded, the death has been immediately in the heart, from syncope, and not from asphyxia.

The remarks of M. Amussat are discriminating, and of much value. He insists on the cautious administration of chloroform, and on the renewal of it from time to time during an operation; and he speaks of the alarm occasioned in his mind when cases remain long under its influence. Who that has given chloroform has not felt anxiety during the administration? MM. Velpeau and Roux surprise us by their partizanship, advocating chloroform in every case, refusing belief in its fatal influence in this or any case, and rejecting its use altogether if they could believe that it could ever destroy life.

He is the true friend of chloroform who is alive to its danger, will discriminate between cases proper and improper for its employment, and will administer it with every physiological precaution.

The case related by M. Honoré, in which the mere introduction of a catheter caused immediate death, is the exact case in which chloroform may be of inestimable service. Had it been used in that case, the sensibility would have been destroyed, and life saved. It is exactly in such a case, as was stated in the paper On Death from Chloroform, that this anæsthetic agent is of value.

M. Baillarger's remarks with regard to the injurious effect of chloroform in epileptic cases are of particular value, and corroborate some observations made in a paper On the Use of Chloroform in Neuralgia. It was found that while chloroform was of service in periodical neuralgia, it was injurious when the neuralgia was due to, or accompanied by, cerebral affection.

July 11, 1848.

President, M. Velpeau.

Death during the Administration of Chloroform at the Hôpital Beaujon.

M. Robert related the following case:—A young man, 24 years of age, corpulent, of a lymphatic habit, his tissues being soft, was admitted into the Hôpital Beaujon on the 25th of last June, having been struck in the left thigh by a ball, which, traversing the limb from before backwards, at its middle part, had broken the diaphysis of the thigh-bone into large splinters. The disarticulation of the thigh, judged indispensable, was decided on. The patient was submitted to the action of chloroform by means of a small bottle, pierced with several holes, containing a peculiar diaphragm saturated with chloroform, and surmounted, at its opening, with a large cone adapting itself to the mouth of the patient. The nostrils were closed by the finger of an assistant. At the end of three or four minutes, the patient manifested, though in a slight degree, the convulsive movements which characterise the stage of excitement, and soon afterwards he was in a state of complete relaxation. M. Robert commenced immediately. The femoral artery being compressed in the groin, he plunged in a long straight knife at a point three fingers' breadth beyond the antero-superior iliac spine, and made a large anterior flap. During this part of the operation, the patient (although the artery had for a very short time not been perfectly compressed) lost but a very small quantity of blood. At this period the patient began to recover consciousness. M. Robert wished to prolong the state of insensibility, and directed, with this view, a renewal of the inhalation while he continued the operation; but a quarter of a minute had scarcely elapsed when the respiration became stertorous, and he immediately discontinued the inhalation. The patient's face was very pale; his lips discoloured; his eyes, the pupils being dilated, were turned upwards under the upper eyelid. The operation was immediately suspended, and M. Robert hastened, with the help of assistants, to attempt to recover the patient, whose respirations had become infrequent and sighing, whose pulse was no longer perceptible, and whose limbs were in a state of perfect relaxation. Frictions to the skin, irritation of the pituitary membrane, frequent movements of the arms and the thorax, were all employed with energy and perseverance. Several times respiration seemed to return, and the pulse became appreciable; but the amelioration was but for the moment, and, after three quarters of an hour of incessant efforts, the patient had ceased to live.

The nature of the symptoms observed during these last moments left no doubt as to the immediate cause of death. The sudden pallor, the annihilation of the pulse, demonstrated that the patient had died from syncope. The introduction of air into the veins could alone perhaps destroy the patient with such rapidity; but he presented no symptom characterising that occurrence.

After endeavouring to establish that the patient died from syncope, M. Robert tried to determine what could have been its cause. After demonstrating that it could be attributed neither to hæmorrhage nor to the length of the operation, M. Robert thought that chloroform had not been a stranger to this fatal syncope; and he added, that to that agent, before anything else, it must be attributed.

Nevertheless, in expressing this opinion, M. Robert thought it right to advert to those special conditions of the wound which might concur in producing this result. Those conditions are, the state of stupor and depression of the nervous system which usually accompany gun-shot wounds, especially those which involve the great articulations; in the second place, the moral condition of the wounded, who was plunged into gloomy despair, which depressed the nervous system and lessened the reaction from the injury.

A confused discussion followed the relation of this case, and finally the fatal cases of M. Gorré and M. Robert were referred to a special commission.—*L'Union Médicale.*

Correspondence.

ON THE USE OF TAR AND ARSENIC IN CUTANEOUS DISEASES.

SIR,—Allow me to thank Mr. Hunt, through the medium of your valuable journal, for his liberal notice of my paper on the use of tar in cutaneous diseases. The subject is now fairly under the notice of the profession, to whose candid and mature judgment may be referred the question of each remedy—arsenic and tar. But in answer to one (the 3rd) objection adduced by Mr. Hunt, viz. the disagreeable odour attending the external use of the remedy, I would reply, that in the generality of cases no such application is necessary, the tar capsules being alone sufficient, as in acne lepra and sycosis; while in eczema, and other diseases requiring the external use of tar, the remedy is far less offensive than the excretions which the complaint itself gives rise to.

Mr. Hunt's very great success in the administration of arsenic, even in cases where all other remedies had failed, must entitle his opinion to the respect of the whole profession; but perhaps the case detailed below may not be unworthy the attention of any one desiring to form an accurate opinion as to the respective merits of the two remedies.

In April last I was requested to see a patient living in Villiers Street, Strand, and found the case to be one of well-marked lepra in the first stage, attended with much heat and irritation: the disease was nearly confined to the hands and arms, very little appearing on other parts. Purgative medicines and moderate diet were ordered, and continued from the 20th April until the 20th May, when the inflammatory action being subdued, the patient was ordered 5 minims Liq. Potassæ Arsenitis ter die, with the food, which was continued till the 15th June. During this time the conjunctivæ became inflamed, and dizziness of sight was present, proving the action of arsenic on the system; the eruptive disease in a slight degree diminished, but still the patches of lepra remained very distinct. At this time the health and strength became so reduced as to render it absolutely necessary to give up the Liq. Potassæ Arsenitis, and to employ tonics and steel with ammonia, which in ten days enabled the patient to walk about during the day, which she could not do before. In the beginning of this month, I gave her the capsules of tar, which she was afraid to attempt to swallow in the first instance. The capsule has been taken with ease twice a day until the present time; the eruption has disappeared; the general health and strength greatly improved; she assured me a few days ago she had not enjoyed such good health a long time. No external application of tar was made in this case, and during the first stage, so great was the irritation at certain hours of the day, that neither gruel, decoction of poppies, or any other of the usual soothing remedies, could be borne; dusting the part over with flour and starch-powder, seemed to answer best. This is only the second case of lepra treated with tar by me. I think it clearly proves the power of this remedy over the disease.

Not wishing to trespass too much on the pages of the GAZETTE, I will only again thank you and Mr. Hunt, for the liberal manner in which you have brought this subject before the profession,—I remain, sir,

Your obedient servant,
JNO. WETHERFIELD.

July 1848.

Medical Intelligence.

RESOLUTIONS PASSED AT A MEETING OF SURGEONS AT MANCHESTER.

AT a meeting of the members of the Royal College of Surgeons of England resident in Manchester and its neighbourhood, convened by public advertisement, and held at the Town Hall, on Tuesday, July 11th, 1848, W. W. Beever, Esq. in the chair:

It was proposed by Daniel Noble, Esq., and seconded by Dr. Rayner, of Stockport, and resolved:—"That this meeting hereby records its decided opposition to any measure of legislation affecting the constitution of the medical profession, which may ratify the retrospective act of injustice involved in the provisions of the charter recently granted to the College of Surgeons, at the instance of the council."

It was proposed by James Bower Harrison, Esq., and seconded by D. Bowman, Esq., and resolved:—"That the invidious proceedings of the council in regard to the fellowship have deprived it of the value and consideration which, under other circumstances, it would have possessed; and that in the opinion of this meeting it would be derogatory on the part of those who were members of the College anterior to the date of the charter of 1843, to procure admission to the fellowship by re-examination and further pecuniary payment, as at present proposed."

Proposed by Thomas Dorrington, Esq., and seconded by G. Southam, Esq.:—"That this meeting conceives the Colleges of Physicians and Surgeons, once placed in just and harmonious relation with their respective members, to be amply sufficient for all the requirements of medical science, and that the institution of a third and subordinate college of general practitioners would, under such circumstances, introduce needless complication, and be prejudicial to the best interests of the profession."

It was proposed by R. H. M'Keand, Esq., and seconded by G. Southam, Esq.:—"That a committee be appointed, consisting of the following gentlemen, with power to add to their number, to carry out the above resolutions: Mr. Beever, Dr. Rayner, Messrs. Noble, M'Keand, Bower Harrison, Southam, Yorke Wood, Leah, and Bowring."

It was proposed by A. Featherstonehaugh, Esq., of Bolton, and seconded by J. Leah, Esq., of Gee Cross:—"That the committee be requested to publish the proceedings of this day in such a manner as they shall deem most advisable."

Proposed by John Windsor, Esq., and seconded by T. Dorrington, Esq.:—"That the best thanks of this meeting be given to his Worship the Mayor, for his kindness in allowing the use of the Town Hall for the purpose of this meeting."

(Signed) W. BEEVER,
Chairman.

John Windsor, Esq., in the chair.

Proposed by R. T. Hunt, Esq., seconded by T. Fawcett, Esq., Oldham:—"That the best thanks of this meeting be given to W. W. Beever, Esq., for his impartial conduct in the chair."

(Signed) JOHN WINDSOR,
Chairman.

APOTHECARIES' HALL.

NAMES of Gentlemen who passed their examination in the Science and Practice of Medicine, and received certificates to practise, on Thursday, 27th July, 1848.—Joseph Drew, St. Austle, Cornwall—Wm. Davis, St. George's Town, Salop—Joseph George Thompson, St, Mabyn, Cornwall—Charles Smith, Weyhill, Hants — Louis Truefitt, Burwood Place, Hyde Park.

Selections from Journals.

PATHOLOGY.

ON THE STATE OF THE URINE IN BRIGHT'S DISEASE OF THE KIDNEY.

BY DR. J. F. DUNCAN.

Low specific gravity, and deficient quantity, are both conditions of this secretion, compatible with health, when they exist singly, because they depend solely upon the amount of water carried off at the kidneys. In hysteria, where the fluid is often enormous, the specific gravity is very little higher than that of ordinary water; and, on the other hand, when a patient drinks but little, the specific gravity is relatively high. It is only when the two conditions coexist—when the specific gravity is low and the quantity small—that we have reason to consider the patient's state unhealthy. Now both of these are apt to occur in Bright's disease, because the deposit mechanically interferes with the secretion of the gland. In diabetes, on the contrary, the very opposite takes place: there is enormous secretion and high specific gravity.

In stating, however, that low specific gravity and deficient quantity are the common attendants of Bright's disease, I must be careful to guard against misconception. Many persons are in the habit of considering them invariably present, but Christison has shown distinctly that both in the earlier and the later stages of the complaint, but especially the former, the quantity of urine passed may very nearly equal the average of health. The diminution of density, however, is in general very remarkable. The reason of this is obvious on a little reflection. The mechanical impediment arising from granular degeneration, interferes less with the secretion of fluid than with that of the saline matters which determine the density. This change in the specific gravity is often sufficiently indicated by the ordinary urinometer; but evaporation and drying the residuum will of course ensure greater accuracy in the result. Dr. Christison informs us that he has known the solid contents reduced from 1340 grains in 10,000, to 700, 500, and even to 400 grains.—*Dub. Med. Press.*

BIRTHS & DEATHS IN THE METROPOLIS

During the week ending Saturday, July 29.

BIRTHS.		DEATHS.		*Av. of* 5 *Sum.*	
Males....	707	Males....	650	Males....	495
Females..	689	Females..	551	Females..	477
	1396		1201		972

WEST—Kensington; Chelsea; St. George, Hanover Square; Westminster; St. Martin in the Fields; St. James .. (Pop. 301,326)	163
NORTH—St. Marylebone; St. Pancras; Islington; Hackney ...... (Pop. 366,303)	247
CENTRAL—St. Giles and St. George; Strand; Holborn; Clerkenwell; St. Luke; East London; West London; the City of London ... .(Pop. 374,759)	200
EAST—Shoreditch; Bethnal Green; Whitechapel; St. George in the East; Stepney; Poplar ....(Pop. 393,247)	287
SOUTH—St. Saviour; St. Olave; Bermondsey; St. George, Southwark; Newington; Lambeth; Wandsworth and Clapham; Camberwell; Rotherhithe; Greenwich ....(Pop. 479,469)	304
Total	1201

CAUSES OF DEATH.		Av. of 5 Sum.
ALL CAUSES	1201	972
SPECIFIED CAUSES..............	1199	968
1. *Zymotic* (or Epidemic, Endemic, Contagious) *Diseases* ..	505	257
Sporadic Diseases, viz.—		
2. Dropsy, Cancer, &c. of uncertain seat	25	45
3. Brain, Spinal Marrow, Nerves, and Senses	112	120
4. Lungs and other Organs of Respiration	79	80
5. Heart and Bloodvessels	26	28
6. Stomach, Liver, and other Organs of Digestion	81	79
7. Diseases of the Kidneys, &c...	11	8
8. Childbirth, Diseases of the Uterus, &c................	5	10
9. Rhematism, Diseases of the Bones, Joints, &c.	6	7
10. Skin, Cellular Tissue, &c.......	4	1
11. Old Age	81	50
12. Violence, Privation, Cold, and Intemperance	43	8

The following is a selection of the numbers of Deaths from the most important special causes:

Small-pox	36	Paralysis........	24
Measles	5	Convulsion......	35
Scarlatina	119	Bronchitis	33
Hooping-cough..	25	Pneumonia......	27
Diarrhœa	173	Phthisis	133
Cholera	26	Dis. of Lungs, &c.	7
Typhus	77	Teething........	17
Dropsy..........	5	Dis. Stomach, &c.	5
Sudden deaths ..	2	Dis. of Liver, &c.	12
Hydrocephalus..	38	Childbirth	4
Apoplexy........	18	Dis. of Uterus, &c.	0

REMARKS.—The total number of deaths was 229 above the weekly summer average, indicating the large increase of 105 above the deaths of the preceding week.

METEOROLOGICAL SUMMARY.

Mean Height of Barometer .... 29·76
" " Thermometer[a] .... 61·6
Self-registering do.[b] .... max. 101·3 min. 46·0
" in the Thames water — 66·4 — 64·2

[a] From 12 observations daily. [b] Sun.

RAIN, in inches, ·75: sum of the daily observations taken at 9 o'clock.

NOTICES TO CORRESPONDENTS.

We regret that we could not find room in our previous number for the notice issued by the Upton-upon-Severn Board of Guardians, forwarded by Messrs. Braddon and White. The correspondence and remarks on the subject which we lately published are a sufficient warning to all respectable practitioners; with regard to others, no observations which we could make would have the slightest influence.

We have only this week received a copy of the resolutions passed at a meeting of the Surgeons of Manchester. No previous communication has reached us.

Mr. J. D. McDonald's paper on the Spinal Accessory Nerve will be inserted in the following number.

The communications of Mr. Wells, Mr. Canton, Mr. Lee, Mr. Kesteven, and the letter of Dr. Brookes, will appear next week.

Lectures.

LECTURES ON THE DISEASES OF INFANCY AND CHILDHOOD,

Delivered at the Middlesex Hospital.

By Charles West, M.D.

Physician-Accoucheur to the Middlesex Hospital, and Senior Physician to the Royal Infirmary for Children.

Lecture XXXVII.

Fevers—chiefly belong to the class of the Exanthemata—mistakes with reference to simple fever in childhood—its identity with fever in the adult—Simple fever or remittent fever occurs in two degrees—Symptoms of its milder form—of its severer form—signs of convalescence—modes of death—Diagnosis—Treatment.

We come now, gentlemen, to the last part of this course of lectures, namely—to the study of the febrile diseases incidental to infancy and childhood. They belong, for the most part, to the class of the Exanthemata,—diseases characterized, as you know, by very well-marked symptoms, by a very definite course, and by their usually occurring only once in a person's life. These peculiarities have always obtained for them the notice of practitioners of medicine, and few of the affections of early life have been watched so closely, or described with so much accuracy, as small-pox, measles, and scarlatina. Hence it will be unnecessary to occupy so much of your time with their investigation as we have devoted to the study of other diseases which, though not so important, have yet been less carefully or less completely described.

While the well-marked and unvarying features of the eruptive fevers, however, have forced those diseases on the attention of all observers, the more fluctuating characters of simple continued fever have been so masked by the differences between youth and age, that the affection, as it occurs in early life, was long almost entirely overlooked, and its nature was, in many respects, still longer misapprehended. Many indeed, even of the older writers on medicine, have spoken of fevers as occurring among children at all ages; but under this name they confounded together several diseases in which febrile disturbance was merely the effect of the constitution sympathising with some local disorder. This mistake was committed with especial frequency in the case of various affections of the abdominal viscera; many of which are attended by a considerable degree of sympathetic fever, while their symptoms, in other respects, are often so obscure that the imperfect diagnosis of former days easily failed to discover their exact nature. As medical knowledge increased, many of these disorders were referred to their proper place; but, nevertheless, the descriptions given of the so-called *remittent fever*, worm fever, and hectic fever of children, present little of a definite character, and are evidently the result of a blending together of the symptoms of various affections. The disease described under these different names was supposed to be a symptomatic fever, excited by gastric or intestinal disorder, and limited in the period of its occurrence to early life; while the absence of the well-marked shivering which usually attends the onset of fever in the adult, the rarity of any efflorescence on the surface of the body, and the comparatively low rate of mortality which it occasions, led persons altogether to overlook the close connection between it and the continued fever of an adult.

If, however, we look closely at the characters of this disease, and compare them, as has been done by MM. Rilliet and Barthez, with those presented by the simple continued fever of the adult, we shall, I think, see so close a correspondence between the two affections as to remove all doubt with reference to their identity. Both diseases occur independently of any unvarying cause, often independently of any cause which we are able to detect; and both, though generally affecting isolated individuals, yet have also their seasons of epidemic prevalence. Though varying in severity, so that in some cases confinement to bed for a few days is scarcely necessary, while in other cases the patient scarcely escapes with his life, yet medicine has not yet been able to cut short the course even of their mildest forms. And, lastly, though the local affections associated with both vary much in different cases, yet in every instance we meet with that assemblage of symptoms which make up our idea of fever. Or if, from the examination of the symptoms during life, we pass to the inquiry into the traces left by the disease on the bodies of those to whom it proves fatal, we shall find still further evidence of the close relation that subsists between the fever of the child and that of the adult. Enlargement, tumefaction, and ulceration of Peyer's glands, constitute one of the most frequent morbid appearances in both diseases, and in both, the changes that these glands are found to have undergone are more advanced and more extensive in proportion to their nearness to the ilio-cœcal value. In both too, the mesenteric glands are enlarged, swollen, of a more or less deep red colour, and manifestly increased in vascularity; while the

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softened state of the spleen, the gorged condition of the lungs, and the congestion of the membranes of the brain, are appearances common to both diseases. There is, however, no more relation between the severity of the intestinal lesion and the intensity of the symptoms in the fever of the child than in that of the adult; and there is no ground for regarding the disease as the mere effect of the constitution sympathising with a certain local mischief in the former case, which may not be equally alleged with reference to the latter. The symptoms in both "are the expression of the influence of the disease on the whole economy of the disorder which it occasions in the principal functions of the body, and are an essential part of the disease itself, rather than the secondary effects of certain lesions of the bowels."*

There are still many questions that might be proposed with reference to the remittent fever of children, but on which I do not enter now, because I am at present unable to give you what would be, even to my own mind, a thoroughly satisfactory solution of them. We will, therefore, pass at once to a safer and more profitable field for inquiry, and will examine into the *symptoms* that characterise this affection.

The different degrees of severity which a disease may present in different cases do not in general form a good basis on which to found any classification of its varieties; but in the case of remittent fever of children the differences are so great between its milder and its severer form as to warrant our adopting them as a ground for a subdivision of the disease into two classes. In *cases of the first or milder kind*, the disease usually comes on very gradually, often so much so that the parents of a child who is attacked by it are unable to name any fixed time as that at which the illness began. The child loses its cheerfulness, the appearance of health leaves it, the appetite fails, and the thirst becomes troublesome; by day-time there are listlessness and fretfulness, and drowsiness towards evening, but the nights are often restless, or the slumber broken and unrefreshing; while all these symptoms come on without any evident cause, and are not accompanied by any definite illness. When once the attention of the parents has been excited to the condition of the child, it is soon ascertained that the skin is often hotter, and almost always drier than natural, though now and then rather profuse sweats break out causelessly on the surface, and continuing for an hour or two, leave the patient in no respect relieved by their occurrence. The bowels are sometimes loose even at the onset of the disease, or if not, they are in general readily disturbed by medicine; a very mild aperient being not unfrequently followed by three or four actions of the bowels daily for the next two or three days. In a few instances there is a condition of rather obstinate constipation at the onset of the disease, requiring active measures to overcome it; but this is not often the case, and when it does occur, it is, I think, more frequently in the severe than in the milder form of the disease. The appearance of the evacuations is almost always unhealthy, and they are usually relaxed and very offensive. The tongue is generally rather deficient in moisture, red at the tip and edges, thinly coated on the dorsum with white mucus, through which the papillæ appear of a deep red colour. The abdomen is soft, though there is some flatus in the intestines, and pressure is usually borne without pain. These characters often continue through the whole course of the affection, though sometimes after the second week pressure in either iliac region, especially the right, appears to cause some suffering. The pulse is generally accelerated from the very commencement of the illness, sometimes it is very much so; but there is by no means a constant relation between the heat of skin and the rapidity of the pulse. Occasionally there is slight cough, but this symptom is very frequently absent in the milder cases of the disease. As the symptoms which constitute this affection come on very gradually, so they often continue for several days with little, if any, change from day to day, though the patient is far from seeming equally ill at all times of the day; and this periodical exacerbation and remission of the symptoms have obtained for the disorder the name of remittent fever. In some instances two distinct exacerbations and remissions of the symptoms may be observed in the course of every twenty-four hours, but in the majority of instances only one is well marked. The child who during the day has been listless and poorly, but yet not incapable of being amused, and has had the appearance of a patient convalescent from some illness, rather than of one still suffering from disease, becomes flushed and uneasy and feverish as evening approaches; and in some cases slight horripilation ushers in the evening exacerbation of fever. The child seems drowsy and begs to be put to bed, where sometimes he sleeps, though seldom tranquilly, till morning. In the second week the nights generally become worse than they were at an earlier stage of the disease; the child's skin is very dry and hot, he sleeps with his eyes half open, talks in his sleep, wakes often to ask for drink, and occasionally has slight delirium. Early in the morning he wakes pale and unrefreshed, but about 9 or 10 o'clock seems to have recovered something of his cheerfulness, and for the succeeding three or four hours appears tolerably well; but as evening aproaches he seems again weary and drowsy, again the febrile paroxysm occurs, and the succeeding night closely resembles the night before. Sometimes, in addition to the evening exacerbation, there is a second one, though less severe, at about 11 o'clock in the morning; from which the child has hardly recovered before the severe evening attack comes on. As the case advances towards recovery, the morning attack disappears long before the evening paroxysm ceases to recur; and it happens not infrequently that a slight threatening of the evening exacerbation continues to return long after the child has seemed in other respects well. It is during the second week of the disease that the typhoid eruption generally makes its appearance, if it appear at all. In the milder cases it is, I believe, much oftener absent than present, and even in cases of a severer kind, it is, if I may judge from my own experience, much less common in this country than in France. Towards the end of the second or beginning of the third week the symptoms begin to abate, the bowels act more regularly, the appearance of the evacuations becomes more natural, the tongue grows cleaner and uniformly moist, the thirst diminishes, and the evening exacerbations of fever grow shorter and less severe; while the child's cheerfulness by day returns, and the face resumes the aspect of health. Still, after even a mild attack of this disease, the child is in general left extremely weak, and greatly emaciated; the loss of flesh and strength being quite out of proportion to the severity of the illness, and the progress to complete recovery being generally very slow.

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* Chomel, Leçons de Clinique Médicale. Fièvre Typhoide. 8vo. Paris, 1834, p. 231.

It sometimes happens, that, having set in with comparatively mild symptoms, the infantile remittent fever assumes a serious character in the course of the second week. In the majority of instances, however, the *severer* form of the disease gives some earnest of its severity at a very early period. It commonly sets in with vomiting, accompanied, in many cases, by head-ache, of which the child complains, if it be old enough to describe its sensations, or by a remarkable degree of drowsiness and heaviness of the head. Coupled with these symptoms, there are those indications of fever which accompany the milder forms of the disease, though in this case with a proportionate increase in their severity; and sometimes distinct rigors may be observed alternating with the heat of the surface, or preceding the evening exacerbations of the fever. In the greater number of instances the vomiting with which the disease sets in does not return after the second or third day of the patient's illness; but to this there are occasional exceptions; and as the sickness is usually most severe in cases in which constipation is present, there is some risk of mistaking the real nature of the affection, and of regarding the irritability of the stomach as a sign of approaching cerebral disease. Now and then, too, the drowsiness at the onset of the disease is so overwhelming that I have known a child fall asleep three or four times during breakfast, while his dizziness, and inability to walk steadily, still further strengthened the impression that he was suffering from some affection of the brain. Either of these occurrences, however, is unusual, and, though listless and drowsy, the child is in general unwilling to keep his bed, while by night he is commonly very restless, waking often in a state of alarm, or talking much in his sleep. The countenance before long begins to wear the peculiar heavy appearance of a fever patient, and by the end of the first or the beginning of the second week the child is often found to have sunk into a state of stupor, from which he seems unwilling to be roused. The skin of the trunk is now almost constantly hot as well as dry; the temperature being often higher than in any other disease, with the exception of scarlatina, and ranging as high as 105° Fahrenheit. My own observations with reference to the date of the appearance of any eruption on the surface, are neither sufficiently numerous nor sufficiently accurate for me to rely on their authority. MM. Rilliet and Barthez observe, that it very seldom appears so early as the fourth day, from the sixth to the tenth being the most common date of its appearance; while both the period during which it remains visible, and the number of spots, are liable to very great variation. In by far the greater number of cases, the eruption, according to their experience, is extremely scanty; it often remains visible for only two or three days, and in not a few instances is absent altogether. In a few cases of severe remittent fever profuse sweats take place, but they do not seem to have anything of a critical character. The pulse is very frequent, and I have found it continue at nearly 140 in a minute, for several days together, during the increase of the fever in a child eight years old. A frequent, short, hacking cough often occurs during the first week, and rhonchus, sibilus, and occasional large crepitation, are heard, in many cases, in both lungs. Now and then, too, the respiration continues much accelerated for several days, without any other sign of serious pulmonary disease being present, and gradually regains it proper frequency as the febrile symptoms subside. Tenderness of the abdomen is generally very evident before the first week is passed, but frequently there is no complaint of pain, even in severe cases, except on pressure. Diarrhœa is usually present, though not in general severe, the bowels not acting above four or five times in the twenty-four hours. The tongue is in general more thickly coated at the commencement than in the milder forms of the disease; a dry streak soon appears down the centre, and by degrees the tongue becomes uniformly dry, red, and glazed; or less often it is partially covered with sordes. In the course of the second week the patient generally sinks into a more profound stupor, a condition which alternates in many cases with delirium, though sometimes the mind wanders occasionally almost from the commencement of the disease, and in other cases delirium is a very temporary symptom, occurring only at night, or when the child, during the day-time, wakes from sleep. Now and then, though not generally, the delirium is of a noisy kind, but the child not infrequently tries to get out of bed; and both the restlessness and delirium, though generally present in bad cases during the day-time, are aggravated in a marked degree at night. Once or twice I have seen violent delirium come on towards evening, the child crying and shouting aloud during nearly the whole night, and sinking into a state of stupor by day. The child now seems nearly or quite unconscious of all that goes on around it; its evacuations are passed unconsciously, and it often seems dead to the sensation of thirst, by which, in the early stages of the disease, it was so much distressed; but this stupor of fever is so different from the coma which supervenes in affections of the brain, and the insensibility which characterises it so much less profound, that one can hardly be mistaken for the other. Even when the disease is most severe, neither subsultus nor floccitation is frequent, though it often happens that during the tedious and fluctuating convalescence the child picks its nose till it bleeds, or makes the tips of its fingers, or different parts of its body, sore by picking them. The patient is by the end of the second week, sometimes earlier, reduced by the continuance of these symptoms to the most extreme degree of emaciation, and to a condition apparently hopeless; but there is no disease from which recovery so often takes place, in spite of even the most unfavourable symptoms, as from remittent fever. The signs of recovery are, in the main, the same as would betoken the recovery of an adult suffering from fever, but the amendment has seemed to me always to be gradual, and not in any case the result of any critical occurrence. Moisture begins to reappear upon the edges of the tongue, the pulse loses its frequency, the delirium ceases by degrees, and more quiet rest is enjoyed at night. Such signs of improvement may in general be looked for about the end of the second week, but often the patient's progress is interrupted by many fluctuations: the convalescence is almost always slow, and relapses occur from very slight causes.

In the few cases, and according to my experience they are but few, in which remittent fever terminates fatally, death is hardly ever the result of complications such as not infrequently supervene in the course of fever in the adult, but the vital powers give way under the severity of the constitutional affection, the symptoms of which assume more and more of a typhoid character. It is towards the end of the second, or at the beginning of the third week, that death under these circumstances is most likely to occur; I have seen it take place as late as the 29th day in one instance, and at the end of the fifth week in another, but in both of these instances gangrene of the mouth came on after the more alarming general symptoms had begun to subside; and to this the death of the child was chiefly due. Now and then a fatal termination takes place after the lapse of little more than a week from the commencement of the illness, under signs of cerebral disturbance which throw the general febrile symptoms into the shade; great restlessness and agitation, with loud cries, being succeeded by convulsions, and they, in their turn, being followed by a condition of coma, in which the child dies; while an examination after death discovers nothing more serious than a somewhat greater vascularity than natural of the brain and its membranes.

The *diagnosis* of remittent fever has been rendered needlessly difficult by the loose manner in which the name has been applied to a variety of affections; still it must be confessed that there are several diseases between which, and remittent fever, there are, in some parts of their course, points of similarity that may easily deceive the unwary. The resemblance is often very close between the milder varieties of the fever and some of those cases of gastro-intestinal disorder, by no means unusual in young children, which are excited by errors of diet, and are either associated with diarrhœa or preceded by it. Even in such cases, however, the loss of strength, the dry heat of the skin, and its intensity at the time of the exacerbations of the fever, the marked disturbance of the sensorium, and the delirium at night, which is almost always present in children sufficiently old for this symptom to be apparent, are characters by which remittent fever may generally be known. General tubercular disease, running an acute course, may now and then be taken for a short time for remittent fever, but the observation of the case for a few days will usually suffice to correct the error. In most instances of the former affection, indeed, the possibility of mistake is altogether prevented by the skin being less hot, the sensorium not disturbed, the abdominal symptoms either more or less severe than they might be expected to be in a fever of the same degree of severity. Independently of this, too, auscultation will often show good reason for suspecting the real nature of the case, or the previous history of the child will afford some clue with reference to it. There are two other affections between which and remittent fever it is often far from easy to distinguish, while, unfortunately, the practical evils which follow from a wrong diagnosis are of a very serious nature. When speaking, however, of hydrocephalus in Lecture VI., and of pneumonia in Lecture XVII.,* I dwelt so fully upon the circumstances that might lead you to mistake either of those diseases for remittent fever, and of the characteristics which belong to the last-named affection, that it will be unnecessary to do more than refer you to the observations made on those occasions. It remains now, therefore, that we notice, in conclusion, the rules that should guide us in the treatment of this disease.

In the *treatment* of remittent fever in the child, just as in that of fever in the adult, the grand object to which our attention ought to be turned, is to carry the patient through an affection which we cannot cut short, with as small an amount of suffering or danger as possible. "*Medicus curat, natura sanat morbum,*" says an old Latin adage, and in no disease is it of so much importance as in fever that we should assign to our art its proper position as the handmaid of nature. The gradual approach of the disorder in the great majority of instances, of itself points out the propriety of that expectant mode of treatment which is generally the most appropriate during the first week of the child's illness. The languid and listless state of the little patient, his head-ache and drowsiness, often lead him to wish to remain in bed all day long, but there is no reason for confining him to bed if, during the period of remission of the fever, he should wish to sit up. The impaired appetite often renders any other directions about the diet unnecessary, than a caution to the parents or nurse not to coax or tempt the child to take food which it is, and will probably for some days continue to be, entirely unable to digest. The heat of skin and the craving thirst are the two most urgent symptoms in the early stages of the affection. The first of these is generally relieved by the tepid bath at 90° or 92° every morning, and by sponging the surface of the body several times a day with lukewarm water. The desire for cold drinks is often very urgent, and no beverage is half so grateful as cold water to the child. Of this it would, if permitted, take abundant draughts, but it should be explained to the attendants that the thirst is not more effectually relieved by them than by small quantities of fluid, while pain in the abdomen is very likely to be caused by the over-distension of the stomach. The cup given to the child should therefore only have a dessert or tablespoonful of water in it, for it irritates the little patient to remove the vessel from its lips unemptied. In the milder forms of the disease, and during the first week, medicine is little needed; but a simple saline may be given, such as the citrate of potass in a mixture to which small doses of vinum ipecacuanhæ may be added, if, as sometimes happens, the cough be troublesome. If the bowels act with due frequency, and the appearance of the evacuations be not extremely unhealthy, it is well to abstain from the employment of any remedy which might act upon them, for fear of occasioning diarrhœa, which is so apt to supervene in the course of this affection. For the same reason, if an aperient be indicated, drastic purgatives are not to be given, but a moderate dose of castor oil should be administered. Now and then, however, cases are met with in which the bowels remain confined during a great part of the affection, and in which such purgatives as senna are not only borne, but absolutely necessary. They, however, are purely exceptional cases; and it will generally suffice to give a small dose of the mercury and chalk night and morning, and during the day time a small quantity of the tartrate of soda or the sulphate of magnesia, dissolved in some simple saline mixture, every six or eight hours.

The unhealthy state of the evacuations that exists in a large number of cases is generally associated with a disposition to diarrhœa, which becomes a more prominent symptom in the second than it was in the first week of the disorder. Equal parts of the hydrargyrum cum cretâ and Dover's powder are the best means of relieving both these morbid conditions; the remedy being given either once or twice a day, or more frequently, according to the urgency of the symptoms. The amount of abdominal pain and tenderness must be ascertained every day; and a few leeches must be applied to either iliac region if the tenderness seem considerable, or if the child appear to suffer much from pain in the abdomen, or if the diarrhœa be severe. If depletion be needed, the application of but a small number of leeches will generally meet the requirements of the case, while copious bleeding is neither useful nor well borne. Even in children of ten years old I never apply above four or six leeches, and it is very seldom that any occasion arises for a repetition of the bleeding. The application of poultices to the abdomen, either of linseed meal or scalded bran, and their frequent repetition, is a very valuable means of relieving the griping pain which often distresses children, and in most cases it is desirable to make trial of them before having recourse to depletion.

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* See the GAZETTE for July 16, and for Dec. 17, 1847.

There is but one other class of symptoms likely to occur during the first week of the fever, to the management of which I have not yet referred; namely, those signs of cerebral disturbance which are sometimes so serious as to call for treatment. The early occurence of delirium, though it generally implies that the disease will assume a rather serious character, yet does not of itself indicate the necessity for taking blood from the head; but if the child be quiet and generally rational during the day-time, though dull yet not in a state of stupor; while the delirium at night is of a tranquil kind, it will generally suffice to apply cold to the head, and to keep the apartment cool, and absolutely quiet. On the other hand, if there be great restlessness and noisy delirium early in the disease, with heat of head or flushing of the face, local depletion is called for; nor is it less useful in those cases which set in with symptoms that bear a close resemblance to those of hydrocephalus, in which vomiting occurs frequently, and the sense of nausea is abiding, while the child either is constantly making a low moan as if in pain, or is extremely restless, and makes loud complaints of head-ache.

In mild cases of the disease, that expectant treatment usually appropriate during its early stages may be continued throughout its course; great caution being exercised, as the child begins to improve, to prevent its committing any error in diet. When severe, however, the second week often brings with it a train of symptoms that require many modifications in the plan of treatment. The vital powers need to be supported, and the nervous system requires to be tranquillised; and this is to be attempted by means similar to those which we should employ in the management of fever in the adult. The mere diluents which were given during the previous course of the fever must now be exchanged for beef or veal tea or chicken broth, unless the existence of severe diarrhœa contraindicate their administration. In that case, which however does not very often occur, we must substitute arrow root, milk, and isinglass, for animal broths. In a large proportion of cases nutritious food is all that will be required, but wine is sometimes as essential as in the fevers of the adult; and the indications for giving it are much the same in patients of all ages. Even though wine be not necessary, I generally give some form of stimulant during the second and third weeks of the affection. The prescription which I usually follow is one much praised under such circumstances by Dr. Stieglitz, of St. Petersburgh. For a child of five years old, it is four minims of dilute hydrochloric acid, eight of the compound spirit of sulphuric ether, and three drachms of camphor mixture every six hours. It seldom disorders the bowels if they be not much disturbed at the time of commencing its administration; while a small dose of Dover's powder, as a grain or a grain and a half at bed-time, is doubly useful, both in checking tendency to diarrhœa and in procuring sleep for the child, who, without it, would probably be watchful and delirious all night long. So long as any severe abdominal symptoms are present, I abstain from the use of the acid mixture; but give the mercury and chalk, with Dover's powder, every four or six hours, to which I occassionally add an opiate enema at bed-time; and support the strength by food and wine as may be necessary.

The only complication that is apt to be troublesome is the bronchitis. Usually, however, the cough to which this gives rise is rather an annoying than a dangerous symptom; and it is in general more harassing at the commencement of the affection, and again when convalescence is beginning, than during that time when the graver symptoms are present. A little ipecacuanha wine, nitrous ether, and paregoric, will usually relieve it, to which it may occasionally be expedient to add the application of a mustard poultice to to the chest.

The convalescence is often extremely tedious; the child is left by the disease not only extremely weak and emaciated, but with its digestive powers greatly impaired. It is often many days before the stomach is able to digest any solid food; even a piece of bread will sometimes irritate the intestines and bring on a return of diarrhœa. The appetite seems sometimes quite lost; tonics either do no good or are actually injurious by rekindling fever, and there seems reason to apprehend the devolopment of tubercular disease, a consequence which sometimes follows severe attacks of remittent fever. Under such circumstances, change of air, and the removal, if possible, to the sea-side, are often the only means of restoring the child to health; a means which you may recommend with the more confidence since it hardly ever fails to be successful.

APOTHECARIES' HALL.

NAMES of Gentlemen who passed their examination in the Science and Practice of Medicine, and received certificates to practise, on Thursday, 3d August, 1848.—Frederic Foreman Ladd, St. Peter's, Isle of Thanet—Charles Underhill, Wolverhampton—John Mills Wills, Brixham, Devon—Thomas Scott, Sherborn—George Charles Sharman, Moseley.

LECTURES ON THE

INFLUENCE OF RESEARCHES IN ORGANIC CHEMISTRY ON THERAPEUTICS,

ESPECIALLY IN RELATION TO THE DEPURATION OF THE BLOOD.

Delivered at the Royal College of Physicians,

BY DR. GOLDING BIRD, A.M. F.R.S.
Fellow of the College.

LECTURE VI.—May 10, 1848.

Therapeutical application of these inquiries.—observations of the older physicians—influence of water drinking. Kidneys compensating for deficient liver—cholagogue action of some diuretics. Depurating influence of the kidneys—influence of mercurials—renal alterants—their increase of metamorphosis of tissue. Krahmer's researches. Specific and chemical diuretics—depurants—experimental examination of their effect—vitality opposed to chemical change—influence of alkalies in struma—nitre in rheumatism. Dr. Letheby's researches. Concluding propositions.

MR. PRESIDENT,—In my last lecture, having brought to a close all the chemical evidence I could adduce to illustrate the facility with which many bodies regarded as exclusively the products of life were convertible into each other, I passed on to the consideration of the existence of a positive depuration of the blood by the kidneys in diseases in which there existed a state of caco-æmia, whether depending on zymotic influence or the presence of an effete materies morbi; and hope I succeeded in satisfying the minds of my auditors that such really existed, and was evidenced, not so much by a critical alteration in the *appearance* of the urine, as by a sudden increase in the amount of solids existing in it. Further, I laid considerable stress on the fact that it was not necessary, or even logical, for us to deny this depurating power, merely on the grounds of the proper or peculiar poison of the disease not being detected in the urine, inasmuch as it could only be expected to be found there metamorphosed into some of the proper elements of the excretion.

Having, as I hope, demonstrated the truth of these statements (and I may here add, the observations have not been scanty, for I have now notes of 369 distinct examinations of the urine in 33 selected cases treated in the hospital),—having shewn that all we have observed in diseases is in accordance with these views,—having adduced actual evidence that sudden improvement has occurred in patients concomitantly with the evolution of a large quantity of solids by the kidneys, I next proposed to consider the great question arising out of all this—viz., can we at will, by therapeutic agents, produce this depurating effect, and, by hastening the metamorphosis of matter, aid the removal of a *materies morbi*, whether itself the exciting cause, or effect of antecedent morbid action? To this inquiry I propose devoting the present lecture.

We must, I conceive, then, at once admit, from the facts already stated, that the kidneys perform a function of the highest importance,—one which we are all familiar with, but one which, from that very familiarity, we hardly sufficiently appreciate. Although the merest tyro in physiology is aware that the organs in question separate from the blood about one and a half ounces of solids in twenty-four hours, yet every one is not equally cognizant of the fact that the amount of excreta bears a direct ratio to the quantity of mal-assimilated matter in the blood, either derived from the food directly, or indirectly under the influence of the leaven of the disease, as shewn in the results of the analyses of urine excreted at different times of the day, as well as in different phases of disease. Let us now endeavour to give a practical turn to this question, and ask whether *a therapeutical indication of importance may not be drawn from it?* And here we touch upon facts known and recognised by our predecessors centuries ago, but forgotten by ourselves. Having admitted that certain diseases are excited, kept up, or aggravated by a poison, if you will,—or in other words, by a noxious or lethal effete matter in the blood,—*can we not hope to aid our patient by exciting its removal by stimulating the depurating function of the kidneys?* This indication was acted upon by the old physicians—witness the host of apozems, diuretic decoctions, and diet drinks, in which renal stimulants abound; and let us not shut our eyes to the success of the practice, for unless we deny all credence to the statements of the painstaking practitioners of past times, those who will read their quaint records of cases will learn how generally they succeeded in curing the effects of a *caco-æmia*, an unhealthy blood, as evidenced by various eruptive affections, cellular membranous sores, furunculi, and very many such ailments. It is true that in looking at some of their prescriptions we do not generally observe remedies which have now much confidence placed in them as trustworthy diuretics, but then an important element of their potions is most undoubtedly the water of the decoction employed, not in doses of table-spoonfuls, but, as was common in former days, of pints. A most important truth here demands our attention. It may be said that it is true that if a patient takes a pint or two extra of water he will, supposing that no organic lesion exists, excrete a large bulk of urine, from the necessity there exists for pumping off the excess of diluent partaken of. In this way a pint or two of water becomes a diuretic: this every one's experience will enable him to admit; but what is *this*, it may be asked, but the mere drawing off of excess of water,—where is the proof of blood-depuration? This proof is found by collecting the urine, measuring it, and by means of the formula and table before explained, calculating the amount of its solid constituents. It will then be found that the excess of water does not escape alone, but there is really washed away with it a certain, although not very large quantity, of solid debris. To Edmund Becquerel must be accorded the credit of this observation; and any one may satisfy himself of its accuracy by collecting all the urine he passes in twenty-four hours, and determining the quantity of solids it contains; and repeating this process next day, while throwing into his system three or four bottles of aerated—the so-called soda—water. This observation affords a key to many of the undoubted cures effected by the use of many of the mineral springs. Some of them are, like that of Malvern, remarkable only for the positive purity of their water,—setting aside (what we must never forget) the influence of change of scene and association,—the diminution of the friction of mind on matter by business relaxation: healthy air and exercise, amusement of mind and excitement of renewed hopes, we cannot help recognising in the active action of the kidneys, excreted by a course of so-called mineral water,—a most important agent. A man labouring under some chronic ailment, which, perhaps, like old rheumatism, is the direct result of unhealthy constituents of the blood, starts for one of the Brunnens or Spas, and with fearful devotion swallows the enormous quantity of ten or fourteen beakers of the warm and bubbling water. In a few minutes he begins to secrete abundance of urine, and is engaged alternately drinking and micturating for part of the morning,—active exercise, when possible, being enjoined the whole time. By this exercise the wear of tissue is increased, and the copious water-bibbing positively aids the metamorphosis of tissue, and washes its results from the body. An excellent and esteemed physician, the late Dr. J. Johnson, who paid great attention to this subject, informed me that he had been long accustomed to regard this active diuresis an essential element in the patient's well-doing; and where it was not produced the patient was generally the worse for his visit. Hence he was in the habit of never sanctioning any of his patients making a pilgrimage to the Spas if any organic lesion existed capable of interfering with the function of the kidneys.

The same explanation may be given to the success which has attended some cases when submitted to the hydropathic quackery: the patient being actually cleaned out,—the old and diseased tissues being literally washed away, to make room for new structures deposited under the cheering results of the hygenic influences of exercise, good air, and change of scene; and the cheerfulness of mind produced by the bright promises of the future too often delusively held out by the disciples of Preissnitz.

When we are consulted by patients labouring under severe ailment, attended with dark urine, pale alvine dejections, and a jaundiced face,—who hesitates for a moment making an appeal to his liver, and bringing into full play his battery of cholagogues,—who, when consulted on a case in which the skin is hard and dry, the surface imperspirable, and as a result, perhaps, the mucous membrane congested, would demur to the practice of directing his attention to the deficient function, and of doing his best towards arousing the torpid duties of the skin?

Although all will admit the importance of an appeal to the functions of liver and skin, and are daily in the habit of stimulating these great filters when tardy in their offices, yet the depurating offices of the kidneys are forgotten. True, if a dropsical effusion accumulates,—if a patient is threatened with falling a victim to waters of his own forming, the renal pumps are always looked to, and they are set to work, or rather expected to obey, the influence of stimulants, when, perhaps, in many cases a more philosophical and enlarged view of the etiology of the disease would have suggested the propriety of leaving them alone. But the filtering off of water is, as I have said, but one, and really a subordinate function, of the kidneys—one which it shares in common with the cutaneous and mucous surfaces. If we are all ready to admit that an appeal to the liver is important in separating matters rich in carbon, hydrogen, and sulphur, from the blood,—are not the kidneys equally so in their special function of separating matters rich in nitrogen? But we must not forget that we are thus taking a very narrow view of the great importance of the depurative functions of these great glands, for I have shewn you that one, namely the liver, separates from the blood the elements of glycocoll, a body representing the atomic composition of urea and sugar, the former in health, the latter in disease, being constitutents of the urine. If we assume the computation as correct that an adult man secretes twenty ounces of bile in the twenty-four hours, this quantity will yield about 1000 grains of solids containing thirty-seven grains of nitrogen, representing, if half this quantity can be obtained as glycocoll, forty grains of urea, or about one-eighth of that secreted by the kidneys in the same time. The kidneys not only, too, you will recollect, separate nitrogenised, but a considerable quantity of carbonised matter, and hence perform a depurative function analagous to, although less effective than, that of the liver, so far as elimination of carbon and sulphur are concerned. Hence there is a still more important view to take of the kidneys, in their being able to compensate, to a most remarkable extent, for the deficient functions of other emunctories. This, indeed, is a duty these organs can perform readily, because I presume it is less in violation of their normal and definite functions than is the case with any other gland. Thus the liver excreting normally but thirty-seven grains of nitrogen, could hardly be expected to secern any considerable proportion of this matter from the blood,—not so the kidneys, for these organs, as we have learned, always excrete, besides the nitrogenised bodies, urea, uric acid, creatine and creatinine, a pigment (the uroxanthin), nearly as rich in carbon as the bile itself, to which it bears no small analogy, and a peculiar extractive allied to cystine, although not yet isolated, but containing much sulphur, and thus in another important point approaching the hepatic secreta. But, dismissing theory, look to bed-side observation: observe any case in which the hepatic functions are deficient, and we see the urine assuming a compensatory, although, of course, not quite a complementary function, from the kidneys, depurating the blood of carbon in the form of an increased quantity of its peculiar pigment—a body containing 59 per cent. of carbon, and, as a proof, the addition of a few drops of hydrochloric acid to the warmed fluid, develops a magnificient crimson or purple hue, instead of the pale lilac of healthy urine thus treated. Let, however, the liver remain inactive, no matter whether from disordered function or lesion of structure, still the industrious kidneys labour on, and the chamber-pot is now observed by the patient to present a delicate high-water mark of an exquisite lake-colour. Soon this matter increases, and deposits of varying shades of crimson and purple occur. What is this purple deposit? what its function and origin? It consists of the ordinary urate of ammonia, mixed with the body once suspected to be murexid or purpurate of ammonia, but with which it has not the most remote analogy, save in colour. This *purpurine*, as I ventured to name it when I first suggested its then probable and now ascertained function, is, as I hinted to you last week, but a slightly metamorphic form of an element of the bile, and contains no less than 63 per cent. of carbon. Let, however, the disease assume another phase, let the excretion of bile by the liver become arrested, the varying shades of yellow of the surface attesting its presence in the blood: *then*, not by assuming any new function, but in accordance with the law announced by Wöhler, of removing all soluble noxious matters, the kidneys secern and excrete the matter in health proper to the liver, and the contents of the bladder become nearly as bilious as urinous. The picture I have sketched is a familiar one; and of every-day occurrence as it is, can we not deduce from it a useful lesson, in learning, (and, what will be better) acting upon the important fact, *that the kidneys can depurate the blood, not only of matters generally regarded as proper to their function, but of substances which it is the normal duties of other emunctories to separate from the animal organism.*

Is it not wise, then, to take a more enlarged view of the class of alterative or resolvent remedies than we now do? We scarcely use one of this class, without intending it as more or less to influence the liver. Hence an alterative and mercurial are in common parlance nearly convertible terms. These powerful remedies, however, acting as they do in general on the capillary functions, are capable of influencing all the glands, and hence, however intended, and with whatever view prescribed, they often effect good by exerting a less special influence than was intended by the physician: and as I confess myself to be an utter sceptic to the generally received and popular notion of the *specific* action of mercury on the liver, this important and most ancipital remedy exerts a marvellous influence over that great laboratory of the system, the capillary circulation, and wherever the capillary structure most abounds, there its effects are most prominently developed. Mercury is then a stimulant to the function of the liver only in as much as this great organ contains an enormous mesh-work of capillaries: it influences equally in proportion to their bulk all the other organs in which this curious vascular structure exists. A dose of mercury, then, when administered, acts on all the organs in which capillaries abound, and the liver being one of these is influenced by it, but not more in proportion to their development than the kidneys or salvary glands. After what has been said, I think I need hardly point out the *therapeutic indication* I am anxious to advocate. I would press upon the practitioner the importance of directing his attention to diuretics, not as merely helping the pumping off of water, but as *renal alteratives*—as remedies aiding the removal from the body of injurious matters. I am aware that this indication is often unintentionally fulfilled, whenever alkalies or salts of vegetable acids are given, but still at the present time these and other analogous remedies are not administered with the confidence they deserve.

I am now anxious to announce to you a new fact, one which bids fair to be of great importance in the treatment of disease, and one which I believe has never yet been announced, and which the examination of the urine secreted under the influence of remedies has led me to discover. It is, *that we possess remedies which when administered remarkably increase the metamorphosis of tissue, and enable us to produce at will the very depurative effects, which I have pointed out to you as resulting normally in the course of certain zymotic diseases.* In taking a practical view of the so-called diuretic agents, it will now become necessary to divide these into two classes: the one including those which simply increase the bulk of the urine; the other, those which act as *renal alteratives*, and aid the depuration of the blood.

To the former class belong all those agents which out of the body exert no chemical effect on animal matter, as all the vegetable diuretics—squill, copaiba, broom, juniper, guaiac, digitalis, &c. All these, in the absence of any opposing cause connected with mechanical obstructions to the free course of the circulation, will, it is well known, increase the discharge of fluid by the kidneys, and become often valuable agents in enabling us to successfully treat dropsical accumulations. Hitherto no distinction has been drawn between these agents and those which exert a chemical influence on organic matter: and hence two sets of agents exerting most different physiological effects were confounded. If the urine secreted under the influence of the diuretics I have enumerated, be examined, the quantity of solids present will never be found to much exceed the normal quantity: nay, sometimes they will even be in smaller quantity than in health, in consequence of their in some instances acting as irritants to the kidneys, and by producing congestion, interfere with active secretion: the non-arrest of the elimination of water, admitting an explanation on the fact pointed out by that most zealous and successful cultivator of physiological science, Mr. Bowman, and to which I alluded at our last meeting. After I had fully satisfied myself of the general truth of the facts now mentioned, I was much gratified by meeting, in Heller's Archiv. für Physiologische und Pathologische Chemie (December-Heft 1847), with a paper by Professor Krahmer, on this subject. He administered to persons in health different diuretic agents, and having collected and analysed the urine secreted, he found the proportion of solids seldom exceeded, and was often rather less than, the normal average; and hence concluded that these agents had no physiological action on the system; at least, so far as the excretion of solids was concerned: "dass die gewöhnlich sogenannten Diuretica ohne alle physiologische Wirkung sind." I adduce Krahmer's observations in preference to my own, as they were evidently not made under the influence of any preconceived view, as it is evident from his paper that he had no knowledge whatever of the new fact I have hinted at. I have calculated the following table from his experiments:—

Medicine given.	Solids in the urine of twenty-four hours.	Combustible (animal) matter in.	Saline matters in.
None	2·4 ounces.	1·28 ounces.	1·13 ounces.
Juniper . . .	2·12 "	0·94 "	1·18 "
Venice turpentine	1·94 "	1·11 "	0·83 "
Squill	2·25 "	1·04 "	1·21 "
Digitalis . . .	2·45 "	1·28 "	1·17 "
Guaiac . . .	2·43 "	1·38 "	1·05 "
Colchicum . .	2·32 "	1·36 "	0·96 "

Remedies, then, which exert no chemical action on organic matter out of the body, appear to be incapable of augmenting the quantity of solids in the urine, and hence are only of use in increasing the elimination of water,—they may, and do act as renal hydragogues, but not as renal depurants.

We have next to notice those remedies among the reputed diuretics which exert the influence I have alluded to, and according to my own observation, increase the metamorphoses of tissue, and act as depurating agents: this class includes the alkalies, their carbonates and their salts with such acids as in the animal economy are capable of being converted into carbonic acid, including the acetates, tartrates, citrates of soda and potass. These remedies all act alike, they all actively stimulate the excreting function of the kidneys, and increase the bulk of the urine; but they do more, they actually increase the metamorphoses of tissue by, in all probability, a direct chemical action on the elements of worn-out and exhausted tissues, or other matter in the capillary laboratory of the the body. It is well known that alkalies and their carbonates powerfully dissolve albumen out of the body, and even break it up into various secondary bodies: thus, digested with an alkali, albumen yields leucine, protid, and erythro-protid, bodies, allied to gelatine, formic acid, and other compounds. In like manner casein is broken up into tyrosin, leucine, valerianic acid, and other elements. From some such changes occurring in the body, and in the living organism itself, we find the chemical diuretics easily effecting important changes. This I have repeatedly confirmed by absolute experiment. I will adduce but one, as it may be taken as an example of the rest. A young lady is now, and has been for some time, under my care, labouring, among other things, under a condition of the orifice of the urethra which prevents her passing water without the aid of a catheter, so as to admit of a very accurate examination quantity secreted in twenty-four hours. This, when no medicine was administered, was thus collected and examined; and then three drachms of acetate of potass being administered in the course of twenty-four hours, the urine secreted in that time was collected and analysed. The results are shewn in this table:—

	Without medicine.	After ʒiij. pot. acet.
Quantity of urine in twenty-four hours	f℥xvj.	f℥xlvj.
Specific gravity of	1·025	1·017
Solids in	416 grs.	782 grs.
Uric acid	2·6	3·45
Urea	130·5	202·40
Soluble salts	72·0	248 40
Insoluble salts	21·6	32·20
Organic matters not included in the above	189·3	295·50
	416	782

The results of these analyses shew that, after deducting the excess in the amount of soluble salts arising from the conversion of acetate of potass into carbonate, the solids of the urine excreted under the influence of the chemical diuretic exceed those recovered without its aid by 190 grains; and we further learn, that although a large proportion of matter was metamorphosed into both uric acid and urea when the remedy was given, still that the greatest increase was in that mixture of organic products set down as extractive, and consisting chiefly of creatine, creatinine, uroxanthin, and matter rich in sulphur. In the example adduced, not only did the patient lose an excess of 30 ounces of water in 24 hours, but she *wasted* to the extent of 190 grains more than if no remedy had been given, and to this extent had the blood been depurated of those elements which yielded easiest to the influence of the alkaline salt. In these lectures I have advanced much which tends to limit the influence of the vital force, and have endeavoured to shew that it is not the active agent in controlling metamorphic changes; but let me not be supposed for a moment to deny its influence. I regard life as an active agent in controlling organisation, and in exerting an influence opposed to chemical or destructive changes—in a word, as a *conservative agent*. Now, admitting that the elements of our frames resist chemical influences in the ratio of their vitality, it would follow that such constituents of our fibres as present the greatest departure from health are less highly vitalised, and thus yield the easiest to the chemical force exerted by the alkaline diuretics. On this account it is fair to presume that, when we cause an alkaline carbonate to circulate through the blood, it exerts an influence on the nascent elements of those matters less highly influenced by life, allied to that which they exert on dead matter, aids their resolution into substances allied to those produced out of the body, and actually causes the matter to assume so soluble a form as to allow of its ready excretion. This remarkable effect of the alkaline diuretics, although now for the first time demonstrated by actual experiment, and the results of their chemical influence detected in the stream by which they are washed from the body, was not overlooked by the observing physicians of other days.

Before the introduction of iodine into medicine, such remedies were more frequently given, and we must either admit their value, or declare the recorded experience on the subject as a tissue of falsehood or error. As one among many illustrations, I would refer to the results of Mr. Brandish's experience with his solution of potass. In chronic visceral ailments, in cases where albuminous deposits have occurred in glands, as in some forms of struma, and particularly in old rheumatic cases (carefully distinguishing them from mere neuralgic affections) where much of the suffering is kept up by the formation of an undue proportion of acid urates in the system, much good promises to be effected by the remedies in question. The acetate of potass at one time enjoyed a high reputation as a remedy in the treatment of strumous glandular deposit.

In connection with this subject I would especially draw attention to the undoubted benefit resulting from the treatment even of acute rheumatism by large doses of one of our most certain diuretics, nitrate of potass, in doses of ℥ss. or ℥j. dissolved in two or three pints of any diluent in the twenty-four hours. An enormous amount of urine replaces the scanty excretion generally noticed, and the cure of the patient is considerably expedited. This practice, which has been popular in the Parisian hospitals for the last two or three years, has already attracted notice here. The quantity of solids removed from the system by the nitrate of potass is, however, far less than that which is carried off under the solvent influence of those agents which act more energetically on animal matters. It must not, however, be supposed that nitre, or, indeed, any other of the neutral salts, are destitute of influence. It has been long shewn that the salt in question will readily dissolve coagulated albumen and fibrin; and it thus, when circulating in the capillaries, may probably exercise no mean influence in aiding the metamorphosis of tissue. It requires some courage to leave what experience has taught us to be a safe and beaten path, to venture on a new and less trodden track in the treatment of a disease so serious as rheumatic fever. I have scarcely given, in consequence, the nitre a fair trial, but have largely employed its, with us, more familiar ally, the acetate of potass, and with, to my mind, certainly great advantage.

I would earnestly beg those who are now doing me the honour of listening to my remarks, to give a careful and steady trial to the *depurating or chemical diuretics*, especially the salts of potass with vegetable acids, when they are called upon to treat a chronic affection in which the exciting cause, or existing disease, depends upon the presence of some product of less vitality or imperfect organisation. I fully believe that in many instances such matters will be often found to yield, whether they present themselves as albuminous deposits in glands, furuncular disease of cellular tissue, or incrustations on the skin, as in some of the squamous and tubercular cutaneous diseases. That they will succeed in increasing the waste of matter, is, from my observation, beyond all doubt; that the lowest vitalised matters will yield to the solvent the readiest is most probable, and that an important and powerful addition to our supply of therapeutic weapons is certain.

I am not anxious, so soon after the observation of the fact I have announced, to appeal too soon to the results of my own practice in support of it, as I know full well how deceptive often are the results of experience unless largely extended; and the whole history of medicine is one great commentary on the errors arising from observation on results which the mind of the observer has anticipated — an obedience to those *idola specûs* against the influence of which Lord Bacon long ago warned us. I will not dare to do more than state that it has occurred to me to see the periodicity of ague broken through, the paroxysms lessened and made more distant, and the sallow dirty aspect of malaria exchanged for the cleaner and brighter complexion of returning health, under the influence of the agents I am advocating. The disease has thus been rendered readily amenable to the subsequent administration of the anti-periodic whose previous influence it had resisted, or, at least, not satisfactorily obeyed. Jaundice, connected with a large sluggish congested liver, has certainly better yielded to setting up a complementary function on the parts of the kidneys by a diuretic alterant, than by goading the liver with remedies whose influence it refused to obey; and in more than a single instance a strumously enlarged cervical gland has yielded to the persisted use of an analogous remedy even after resisting the iodide of potassium.

In corroboration, to some extent, of the views I have announced, I would particularly draw attention to the extraordinary discovery made by Dr. Letheby, and announced by him last year at the Royal Medico-Chirurgical Society. This gentleman discovered that arsenious acid, when administered to an animal, ceased, under the influence of an active diuretic to develop its poisonous effects, being rapidly carried off by the kidneys. The high and deserved reputation of Dr. Letheby invests this most unexpected and remarkable observation with authority, and, if corroborated by the experience of others, it must be regarded as one of the most marvellous facts connected with therapeutical inquiries.

I would impress upon those who will now act on my suggestion of employing alkaline acetates, tartrates, or citrates, as remedies for the depuration of the blood, or for aiding the solution of lowly organised or cacoplastic deposits, the necessity of testing the work done by the kidneys, by collecting the urine of twenty-four hours several times during the treatment; and then, by aid of the specific gravity, and the table I have given, the amount of excreted solids indicating so much metamorphosis of matter may be observed.

I have not alluded to the influence of benzoic and cinnamic acids as depurating remedies, because I have in an early lecture alluded to their mode of action. I may remark, however, that their efficacy is by no means limited to the quantity of carbon, hydrogen, nitrogen, and oxygen, they separate in the form of hipparic acid, as first pointed out by Mr. Ure, but I find that they induce an increased metamorphosis of tissue, and the quantity of matters included under the vague term of extractive, remarkably increases during the administration of benzoic acid.

I may now be permitted to express the statements I have advanced in this lecture in the form of five propositions:—

A. That a knowledge of the amount of solids escaping from the body in the urine will, independently even of their chemical composition, often enables us to detect a deficient function of the kidneys, although the bulk of the secretion may not be materially affected. This can only be ascertained by the plan now proposed.

B. That whilst *specific diuretics*, as a rule, only increase the exhalation of water from the renal capillaries, the alkaline salts (*chemical or alterative diuretics*), on the other hand, when coming in contact, in the capillary circulation, with the nascent elements of tissues or parts of low vitality, remarkably accelerate their metamorphosis and subsequent solution in the blood.

C. That in certain diseases attended by caco-plastic or even saline deposits, before despairing of all aid from medicines, it would be well to try to effect their removal by the agents in question.

D. That in the treatment of disease, the question ought often to be entertained whethe the ailment is not excited, kept up, or aggravated, by an unhealty condition of the blood, either by the actual existence of a *materies morbi*, or the presence of the results of mal-assimilation.

E. That when one or other indications be made out, great benefit may be often derived by aiding the metamorphosis and solution of the morbid elements by the chemical diuretics (B), not administered with the view of separating mere water, but of aiding the excretion of solid elements of the urine.

And now, sir, I have brought to a close my allotted task, and hope I have succeeded in shewing how close is the relation between the chemistry of living and dead matter,—how much this relation may elucidate even among the *penetralia* of therapeutical inquiry,—and how probable it is that ere long our remedial agents may be more scientifically and effectively wielded by this knowledge. If I have been tedious, I can only offer the apology arising from the difficulties with which my subject is beset, and offer, in return, my sincere thanks for the attention and consideration which has been so kindly and encouragingly extended to me.

Original Communications.

SUBSTANCE OF A REPORT TO THE DIRECTOR GENERAL OF THE MEDICAL DEPARTMENT OF THE NAVY,

UPON THE WOUNDED IN THE HOSPITALS OF PARIS AFTER THE INSURRECTION OF JUNE.

By T. Spencer Wells, F.R.C.S.
Surgeon, R.N.

From the 23rd to the 26th of June, the streets of Paris were the scenes of conflict between the workmen and lowest order of the population on the one hand, and on the other, the soldiery and different classes of national guards. The insurgents firing from behind barricades, or from the windows of houses, were able to take good aim at their assailants, who, in their attacks upon barricades and narrow streets, were almost at the mercy of their opponents. Thus the number of wounded insurgents in the hospitals has been very few, when compared with that of the troops and guards. I have not been able to obtain an exact account of the number of wounded insurgents, but the following is the official report, including among the civilians those of this class who fought on either side:—

Return of wounded brought to the Civil Hospitals of Paris, between the 23rd and 28th of June:—

	Civil.	Mily. & Guards.	Women.	Total.
Wounded received during this period	773	813	33	1,619
Brought in dead .	127	33	2	162
	900	846	35	1,781
Discharged during this period . .	51	104	2	157
Died	115	77	3	195
Remaining July 29	667	632	28	1,267
,, in ambulances	,,	,,	,,	364

This does not include upwards of 500 soldiers in the Military Hospital. Thus the killed, and those who died during the five days amounted to 357, or a proportion of deaths of about 1 in 8 of those taken to the hospitals alive. No autopsies having been made during this time, no accurate report can be given as to the various causes of death. The daily discharges by death or recovery, have now reduced the general total to 1,100. As some months must elapse before a correct statistical return can be drawn up of the nature of these wounds, and the results of operations or other treatment, my present observations must consist of a few general remarks upon what I observed in the wards.

Almost all the wounds were made by musket balls; a very few sabre cuts, some few bayonet thrusts, and contused wounds from splinters, portions of shells, broken stones of the barricades, forming together a very inconsiderable proportion of the wounded. The combatants being very near to each other, the balls struck with a force undiminished by distance, and thus the wounds were generally of a more severe nature than would be met with in a field of battle when the parties were at a considerable distance from each other; consequently, in a large proportion, the wound is complicated by fracture of the bones, and very often the ball has not lodged, but has traversed the limbs or chest, leaving two openings. In many cases balls have been apparently split into two or more pieces, by striking against bones, in others they have been found very irregular in form, probably from the same cause; while in some cases, balls cast upon pieces of old iron or copper, projecting from the sides, have caused considerable laceration of tissues, and difficulty of extraction. In some cases the balls were pierced, and found filled with a white powder, the composition of which has been investigated but not published. No marked symptoms of poisoning by such balls, however, have been observed. The direction of the wounds is generally from above downwards, and from before backwards, in the troops and national guards. Among the insurgents a large proportion are wounded about the head and chest, these being the only parts they exposed when firing at their assailants.

With regard to the treatment, the first objects were, of course, to check hæmorrhage (which appears by the by to have been more abundant, as a general rule, than is commonly observed), and to allow the patient to recover from the state of stupor, collapse, or nervous tremulousness into which he had fallen. Then, in cases of simple wounds of soft parts, either ice was employed, irrigation by cold water, warm fomentations, or poultices, either directly applied, or between two cloths. As far as I observed, if the wound was slight it progressed as favourably under any one of these applications as any other; and I saw nothing to shake my conviction that lint wetted with water at the temperature most agreeable to the patient, is the best and cleanest application that can be used. A great diversity of practice prevails as to the extraction of foreign bodies. In the Military Hospital, the surgeons are exceedingly particular in removing every portion of ball, clothing, or splinter of bone that can be detected, thus reducing the case, as they say, to the condition of a simple wound: ice or cold water is then applied as long as the patient can bear it, and when he desires it warm applicatitions are substituted. At the Hôpital St.-Louis, on the other hand, the surgeons, especially M. Jobert insists upon non-interference with the wound, on the ground that searching for balls is dangerous,—that they either become encysted and remain harmless in the part, or excite suppuration, and are discharged. In the same way they say splinters of bone are either removed by suppuration, or remain and assist in consolidating the broken bone. From what I saw in the wards of this hospital, I should be very unwilling to follow the example of M. Jobert; and I am convinced that the proportion of cases of gangrene and secondary hæmorrhage, of erysipelatous inflammation, unhealthy suppuration, and purulent absorption, was far greater in his than in other hospitals. In one of his *shew cases* of the wounded of February, what he calls a cure of a compound comminuted fracture of the head of the humerus, the patient is evidently suffering from the effects of portions of necrosed bone being surrounded by a large deposit of callus. At the Hôtel-Dieu and La Charité, Roux, Velpeau, and Blandin, take a middle course, making just sufficient dilatation of the wound to admit of the extraction of foreign bodies or splinters, which can be readily reached, and then applying ointment spread upon charpie, with or without poultices. Gangrene was generally limited to the parts immediately surrounding the course of the ball, but in some cases it extended, and considerable hæmorrhage came on after the separation of the slough. I only saw one case resembling hospital gangrene. This was a large superficial wound, and it improved rapidly under the application of slices of lemon by Roux, with whom this is a favourite remedy in such cases. In some cases, gangrene of a whole limb led to the question whether amputation should be performed immediately, or not until a line of demarcation had formed. Velpeau, and most other surgeons, did not wait for the line of demarcation when the gangrene was near the centre of the body, and removed the limb as the only chance of saving the patient's life.

When a wound was complicated by fractured bone, and amputation was not required, in some cases irrigation was employed, in others poultices, but more often the limb was covered with greased charpie, enveloped in broad folds of linen, surrounded by a many-tailed bandage, over which three straw pillows or pads would be fastened by tapes surrounding them and a long narrow splint which was laid upon each. All this was generally removed and reapplied daily, on account of the quantity of purulent discharge from the wound. No care appeared to be taken to keep the limbs extended or immoveable, and, on the whole, the treatment of fractures in the Parisian hospitals struck me as being far less simple and efficacious than in our own. Wounds of joints were numerous. I saw three cases in which balls undoubtedly traversed the knee-joint, in one from before backwards through the patella; in the others from side to side, injuring the condyles of the femur. All are as yet going on well, under the influence of rest and an antiphlogistic regimen.

A great many amputations have been performed, both primary and secondary. Of course as yet no accurate return can be made of their relative success; but common observation would shew that the former have been very successful; the latter quite the reverse. The deaths, as far I could learn, have not exceeded one in ten of the primary operations; while the secondary have been almost uniformly unfortunate in their result. By primary I do not mean immediate amputation, or amputation during the state of stupor or tremor which first succeeds the injury, but when the patient has rallied from this state, and reaction is coming on before local inflammation is set up. From what I saw of the practice in Paris, I should say that if this period were not taken advantage of, it would be far better to wait until healthy suppuration was established in the part, and a sort of hectic had replaced the irritative fever which accompanies the inflammatory condition of the wound before pus is freely formed, than to amputate under the influence of this irritative fever, as some surgeons did, with the belief that they were giving the patient his only chance of life.

The circular operation appears to be commonly preferred to the flap, as an opinion is becoming general that, after three or four years, the stump is a better one than when flaps have been formed. At most of the hospitals, the old-fashioned method of dressing stumps is persevered in: whether pins, sutures, or strapping, are used to bring the edges of the wound together, quantities of greased charpie are laid on, and carried by numerous folds of linen, and a bandage. I saw the method M. Baudens lately proposed, of surrounding the limb by a bandage, and then drawing this forward by cotton threads, so as to approximate the lips of the wound. It is better and simpler than the other plan: the limb is cool, and easily kept clean; but I thought three or four sutures or strips of adhesive plaster would have kept up more accurate adaptation of the flaps to each other.

Chloroform is almost universally used, but in two cases appears to have contributed to the fatal result of amputations. One, a patient of M. Robert, died before the operation was completed; the other I saw die in the bed just as M. Malgaigne had completed disarticulation at the shoulder-joint, and feel convinced that chloroform was the immediate cause of death, although M. Malgaigne did not appear to think so. Velpeau, though he uses it in other cases, objects to its employment in cases of gun-shot wounds, as he says it invariably increases existing prostration.

Having freely expressed my opinion of the practice of the Parisian surgeons, it would be unfair to conclude without paying a tribute of admiration to the zeal and intrepidity they displayed during the conflict. Not content with merely remaining day and night at their posts in the hospitals, they sought the wounded among the combatants, established *ambulances* (or temporary hospitals in large shops) in every district, and obtained supplies of everything required until the sufferers could be removed to the hospitals. Praise is equally due to the surgeons of the Army and National Guard, to civil practitioners, and to the students, both French and foreigners, residing in Paris. All were actuated by the same generous feelings, and many were wounded themselves while endeavouring to assist others. Insurgents, troops, or guards, were all treated with equal care; and, amidst the storm of anarchy, Medicine alone shone forth as an example of their boasted *egalité* and *fraternité* to the republicans who found themselves equals in the eyes of a brotherhood of charity.

Paris, July 23, 1848.

REMARKS ON

INTERSTITIAL ABSORPTION OF THE NECK OF THE FEMUR FROM BRUISE OF THE HIP,

With Cases.

SIMILARITY OF THE POST-MORTEM APPEARANCES TO THOSE SEEN IN CHRONIC RHEUMATIC ARTHRITIS OF THIS JOINT.

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The injury in early age.—We possess no data on which to found an opinion as to the probability, in any given case, of the limb becoming shortened from interstitial absorption of the cervix femoris, after injury to the hip of a comparatively young subject. Either sex may suffer the change; no peculiarity of constitution is to be detected, as constantly present, in these cases; blows on other bones or joints are not followed by such a phenomenon; early or late in life atrophy may succeed the violence; the shortening may advance with greater or less speed; and the gradual, insidious, and, in some instances, almost complete removal of the neck of the femur, is accomplished without any appreciable signs of inflammation,—without any general affection of the system, and in the absence, it may be, of much local inconvenience. The commencement of shortening may date from the time of the accident, or occur some weeks or months subsequently. Mr. B. Bell attended a lady in 1825, who could walk with assistance a few days after the accident. In this case the limb was shortened to the extent of an inch in the course of ten months after the injury.

It is important that we should always bear in mind that interstitial absorption may supervene upon bruise of the hip, for blame by patient and friends is readily cast upon the medical man who has, originally, pronounced the violence inflicted to be a matter of no further moment than to require, but for a short time, rest and local applications to relieve its consequences; and who has been unaware, or neglected to state, that such an apparently trivial injury entails, in some instances, incurable lameness.

Beyond this, a great error in diagnosis is believed to have been committed; for a fracture of, or close to, the neck of the thigh-bone, or a dislocation, is presumed to have been overlooked, and those measures necessary for maintaining coaptation or effecting reduction, consequently, neglected, and which otherwise might, by their employment, have secured the former length and utility of the limb. That such an error should be made, however, is by no means probable, for the accident is unaccompanied by a single symptom characteristic of the fracture or luxation: the result of the case, nevertheless, might expose the character of the unguarded practitioner in attendance, to an imputation of ignorance, raised by uninformed or interested persons; whilst the evidence of apparent mistake presented by the sequelæ of the case, gives a strong, though false, colouring to the justice of the charge.

An acquaintance with cases of this description is valuable also, I believe, as the disease during its progress might, otherwise, be confounded with that more serious and often intractable affection, morbus coxarius,—this latter complaint leading, not unfrequently, to total disorganization of the joint and anchylosis, or terminating in death; the former being an affection unconnected, except incidentally, with the strumous diathesis, and ending in loss of the cervix femoris without producing any constitutional disturbance, without the establishment of ulcerative absorption and the formation of matter,—involving, to a variable extent, the head of the bone and acetalulum, but not affecting, eventually, to any great degree, the range of motion.

I have been unable to find the *details* of any cases in which the neck of the thigh-bone has suffered this peculiar affection in young subjects, as a consequence of injury inflicted over the part, with the exception of those so well described by Mr. Gulliver.[*] The complaint at this period of life is acknowledged to occur occasionally, from violence; but an idea that it is not so generally known as it should be, has induced me to communicate these particulars, and with a view, also, of eliciting further information from others on this very interesting subject.

Occasional allusion is made by authors to the effect of this accident in comparatively young persons, as in the following extract from Mr. B. Bell's work[†]:—"I have met with cases in which interstitial absorption had affected the neck of the thigh-bone of one side in persons of thirteen, thirty, and forty years of age. In cases which occur in middle age it does not, in general, appear to be an idiopathic affection, but is the direct result of cold, or a fall, blow, or injury of the trochanter major." The subjects of the complaint who fell under the notice of Mr. Gulliver were all males, of the respective ages of fifteen, nineteen, thirty, thirty-two, and forty-five years.

Case I.—Mary Betton, æt. 19, an inmate of St. Martin's workhouse. The patient is of strumous diathesis, hysterical, menstruating with irregularity, and is subject to a confined state of the bowels.

In March, 1847, whilst carrying a can up stairs, she missed her footing and caught her ankle between two rails. She fell down three steps, striking at the same time the left trochanter major and left leg; the latter continued, in consequence, to be swollen and tender for two or three weeks. There was slight, diffused ecchymosis over the outer part of the injured hip, accompanied by some swelling; and general soreness of the part was felt for several weeks, obliging her to keep her bed. The least movement of the joint gave her great pain, which she describes to have been of a sharp, shooting character, extending down the inner side of the thigh to the knee. She has always enjoyed good health until three years ago, when she was knocked down by a cab: the ribs were broken and the abdomen bruised, but neither hip was hurt. Since this period she has had frequent attacks of erysipelas in various parts of the body,—has suffered from strumous ophthalmia, eruptions on the face, and has been, as she says, "altogether out of health ever since."

For the injury to the hip described she was confined to her bed three months, during which time there was felt a constant pain in the joint, aggravated almost invariably at night, and always by moving the limb. Liniments and fomentations were frequently, and without benefit, employed. At the expiration of the time named, on quitting the bed and endeavouring to move about, she found that the left leg was shorter than its fellow, and occasioned her, consequently, to limp in walking. The amount of shortening was not then ascertained, but it has, from that period to the present, been on the increase. The pain is worst at night, and increased in damp weather; it is aggravated on motion, and slightly so, by pressing the heel upward, or the trochanter inwards.

Throbbing pain is also complained of at the inner side of the knee, but only when the hip is moved. The former joint is free from swelling, redness, or tenderness on pressure, and its movements are perfect. She is unable closely to approximate the left to the right leg, or to abduct and extend the left thigh without augmenting the pain, which does not, however, under any of these circumstances, appear to be of a severe character. Flexion of the hip is unattended by inconvenience. In progression, the left foot is thrown somewhat forward, the heel is elevated, and in standing or walking, the toes of the left foot support in part the weight of the body. The sole cannot be brought to the ground without a slight inclination of the body to the left side.

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[*] Edin. Med. and Surg. Journal, vol. xlvi.
[†] On the Diseases of the Bones.

On examining the patient, placed in the horizontal position, the body and limbs are seen to be well formed, and there is but little muscular wasting of the left side of the nates perceptible. There is no redness over or in the neighbourhood of the hip, and there is absence of undue heat. The left heel is found to be, at least, an inch and a half above the level of the right one. The distance between the anterior superior spine of the ilium and the upper edge of the great trochanter is less by three-quarters of an inch than on the sound side. The trochanter is shewn to be much nearer than natural to the head of the bone, by comparative measurement, on passing a tape from the centre of the pubes to the fissure of the nates, so as to include this part of the femur.

The patient states that she has never suffered from rheumatism.

The injury in old age.—If the neck of the thigh-bone of an elderly person be examined, a particular change is often to be noticed in its direction, and in lieu of finding it set on to the shaft at an angle of 45°, it will be seen to have assumed a position more or less inclining to a horizontal one. This alteration, however, I believe, is not to be looked upon as of such invariable occurrence, or, as happening to such an extent in the aged as is usually supposed; and I have been at some trouble to satisfy myself on this head, by inspection of the part in numerous subjects, whose ages ranged between sixty and ninety years. "I would venture to suggest, that those who have the opportunity, should examine the state of this part in relation to the later periods of life, so as to enable us to distinguish between what has been considered as *connatural with old age*, and that which may be regarded as the *effect of disease*."* Since my attention has been drawn to this subject, I have had frequent occasion to profit by this valuable advice in post-mortem inquiry, and to be satisfied that many specimens which might be regarded as strikingly illustrative of senile atrophy, with change in position of the cervix femoris, are, virtually, examples only of an alteration occurring in connection with the disease,—chronic rheumatic arthritis, which presents, in addition, even in an early stage of its progress, certain morbid appearances, which will, I believe, when duly attended to, clearly point to the peculiar character of the affection. There is, nevertheless, a certain condition of the neck of the femur present after the age of fifty, which predisposes, not unfrequently, to great change in it upon the application of violence, and this is particularly well shewn by what ensues when the part is fractured wholly within the capsular ligament; the absorbents then become busy agents in the removal of the cervix, and in the course of a few weeks only may have accomplished completely their work. This may occur even, where, prior to the fracture, no change in the direction of the neck had been present. I examined lately an intra-capsular fracture, which befel a female, aged sixty, two months after the injury, and found the cervix had wholly disappeared, whereas, on the opposite side of the body, this part presented the obliquity natural to an adult bone. This case would, I doubt not, frequently find its parallel, if, after death, both joints are examined, in place of it being taken for granted, that from the age of the patient an almost horizontal direction of the neck existed, as a predisposing cause of the original mischief. Mr. Howship has described a case in which the neck had lost half an inch of its length, by absorption on the third week after the accident. Illustrations of the fact are in most museums.

Where the head and neck of the femur, however, suffer concussion only, in consequence of a smart blow upon the trochanter major,—where, indeed, these parts are submitted to a momentary compressing force, passing between the trochanter and the opposite point of resistance, the acetabulum,—the same change is liable to take place as that just described, and is one which is very generally taken into account, as being possible, and not improbable, in forming a prognosis of the accident. If the cervix be already inclining to the horizontal direction; if the patient be bedridden; if a female be the sufferer, or if a rheumatic diathesis be present, the probability is in each case, I imagine, increased of the supervention of interstitial absorption upon violence applied to the great trochanter of a person who has passed the age of fifty.

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* Gulliver, op. cit.

"The numerous pathological inquiries which have been instituted in reference to the condition of the neck of the femur, seem clearly to indicate two facts—1st, that this portion of the bone is less capable of maintaining its vascularity than the other parts of the osseous system; and 2dly, that the universal decay of bone natural to advanced age, first commences in it."* These interesting facts seem to me to bear upon the subject under consideration: thus, if violence be applied in a particular direction, producing, probably, rupture or contusion of some of the nutrient vessels passing along the ligamentum teres for the head and cervix femoris, the quantity of blood supplied to these parts being thereby lessened, becomes still more inadequate to compete in the work of deposition against the opposing absorption which is already assuming the mastery, and the neck of the femur, naturally less capable of maintaining its vascularity than the other parts of the osseous system, falls a prey (so to speak) in the unequal struggle, and is slowly but surely destroyed; whilst the universal decay of bone coincident with life's decline, here first committing its ravages, adds a potent influence in determining the issue.

The idea that at the time of the accident some vessels of the round ligament, probably, suffer, is strengthened by the post-mortem appearances described by Mr. Gulliver, in the case of M'Gruth; the capsule of the joint appeared uninjured, but the round ligament had apparently been detached from the head of the bone to which it had acquired a new connection near its original site.

The following I have copied verbatim from the case-book of the late Mr. Howship:—

Case II.—July 23d, 1828. Mary Hyde, æt. 72. In the hard winter, fifteen years ago, she fell with the upper part of the right thigh on the pavement, raised herself by the railings, but fell a second time on the same thigh, which felt benumbed, and for some time she lay lame and helpless. It took her two hours to go on foot from Sackville Street to Bond Street. The leg, she observed, was first turned outwards, and is so still. About a month after the accident, she was able to crawl with a stick, and came into the Oxford ward, St. George's Infirmaly, under Mr. Heaviside. For many weeks the hip was fomented, with partial relief. She went out carried in a coach. She was very weak, and the right limb was getting shorter, but she is quite sure that since the accident there has been gradual shortening, and especially within the last twelve months. In walking, it appeared to me that the limb was shortened full two inches, and this accorded with her own idea. There is pain in the articulation of the hip-bone in standing on it, as if she had been struck a blow: aching and throbbing when fatigued, but always feels it: if she walks across the room it is slightly benumbed, or as if there was no strength in the bone. If exposed to fatigue, all the distress is in the neck of the femur.

On examination, by measuring with a tape from the bottom of the heel to the anterior superior spine of the ilium, the right thigh is shorter than the left very nearly two inches; the trochanter seems enlarged, but is much higher up than on the opposite side; but the motions of the head of the bone prove this part in its place; but the neck appears exceedingly shortened, and I think its direction changed.

June 1831.—Examined her again: able to walk very comfortably; no pain in bearing her weight, only an inconvenience from shortening.

January 30, 1832.—After an insensible decline, sunk and died.

On removal of the right hip I found the neck of the bone so shortened that the margin of the head (directly behind which the capsule was attached all round) was brought nearly into contact with the two trochanters. A narrow, very small cord (the remains of the ligamentum teres), of its proper substance and appearance, yet existed; and in the space usually filled at the bottom of the acetabulum by synovial glands, I found two very red and vascular masses of bone, partially covered with cartilage, apparently an ossification of the fatty substance.

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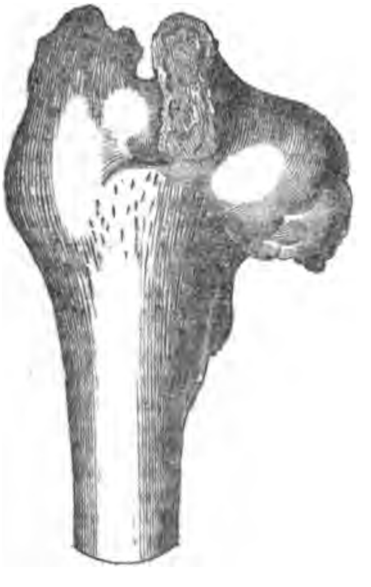
* B. Curling, Med.-Chir. Trans. vol. xx.

I shall venture to describe, somewhat more in detail, the bony parts of the hip, which are preserved in the Museum attached to the Charing-Cross Hospital. Less than half an inch of the neck of the femur remains below, whilst the upper part has suffered still more in the destruction, and is encroached upon, and overhung by, a buttress of bone springing from the anterior inter-trochanteric line, and gradually becoming thinner as it sweeps around, and marks the limit of the head at its upper, posterior, and lateral margins. This projection is on a level with the summit of, and separated from, the trochanter major, by a distance of a quarter of an inch only. The head itself is depressed, spread out so as to be 2½ inches in breadth, and in height 3 inches, preserving still a certain degree of convexity, and overhangs, to concealment, the neck of the bone, so that the resemblance of the two to a mushroom, with a thick and stunted stem, is far from fanciful. The encrusting cartilage is absent in certain places, leaving porous bone exposed. The whole bone, like the corresponding os innominatum, is light and spongy, but firm withal. The acetabulum is widened, and corresponds in breadth and height with the measurements given. The cartilage is wanting in places opposite to the deficiencies on the head of the femur. The width of the notch is 1¾ inches.



I have already shewn that the changes occurring in the neck of the femur, incidental to advanced age, are not to be confounded with the alterations which ensue from violence or disease; and the statements of authors I find, not unfrequently, are such as to warrant the idea that there is little if any difference in these affections; — *e. g.* Prof. Miller[*] says: "In consequence of external violence, as a smart blow or fall on the trochanter major, it is not uncommon to find the neck of the femur undergo much change by interstitial absorption; and *similar alteration* may occur spontaneously — that is, without any assignable cause,—seeming to be *one of the signs of the frame's decay, not only in mass but in its details, which usually accompany old age.*"

Analogous alterations from disease. — It is interesting to remark how similar are the morbid alterations in the hip, consequent upon this injury, to those seen in cases of chronic rheumatic arthritis: the same absorption of the neck, giving rise, in part, to shortening of the limb; removal of cartilage; eburnation of the exposed surface where pressure is greatest; flattening, expansion, and depression of the head, with an irregular projecting osseous girdle, generally, where it joins the cervix; enlargement of the acetabulum, disappearance of the ligamentum teres, with thickening of the capsule, and irregular deposits of new bone around, are to be noticed; loose cartilages also may be found in the joint, and the transverse ligament be converted into a bridge of bone, &c. Such changes, I believe, have not unfrequently been regarded (in the absence of a history of the case) as aggravated examples merely of that atrophy of the part natural to declining years. In the examinations I have myself made of the hip in a large number of subjects (male and female), who had lived upwards of sixty, seventy, or eighty years, I have never been able to find any other alteration than a descent of the cervix, and that to a less degree than I imagined would be found at this period of life, from the description usually given by authors of the *horizontal* position of the neck of the femur, which is to be considered as characterising the bone in an elderly person.

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[*] Principles of Surgery.

I should mention, in addition, that a thinness of the cortex of this part, and a more open condition of the cancelli, was usually to be noticed. In three female subjects, each more than 90 years of age, the cervix I found was but little altered from its natural obliquity. I have occasionally, however, met with a hip-joint (and in general both sides had suffered) where the morbid changes previously alluded to were present; whilst the existence, ordinarily, of analogous alterations in some other articulations would more definitely indicate—though such corroboration is needless—the real nature of the affection.

Mr. Adams, in his account of the rheumatic disease of the hip, has, in the subjoined remark, hinted at the similarity of the morbid appearances found after this accident to those consequent upon the above complaint. He says, "We have also reason to think that falls upon the great trochanter have given rise to the first symptoms of this disease." In alluding to these observation, Dr. Todd* observes, "This is by no means improbable, nor is the fact opposed to that view of the disease which assigns it a *rheumatic* origin; for, doubtless the perversion of nutrition excited by the violence of the fall, would, as often happens in gout, occasion a greater attraction of the rheumatic matter to the injured joint than would otherwise have taken place." I have already quoted from Mr. B. Bell's work a passage, part of which bears upon the present question—"In the cases which occur in middle age, it (interstitial absorption of the neck of the thigh-bone) does not in general appear to be an idiopathic affection, but is the direct *result of cold, or a fall, blow, or injury of the trochanter major.*" The latest authority on this subject, Mr. Smith, of Dublin, remarks, "The limb becomes shortened, the foot everted, and not unfrequently we will find in such cases all the symptoms of chronic *rheumatic arthritis* established."*

Not only are the appearances found after death analogous to those seen when the hip is affected with the rheumatic disease, but the symptoms during life are the same. In both there is stiffness; limitation of motion in certain directions; dull, wearying pain in the joint, and extending down the thigh; aggravated at night and after exercise; increased in damp and frosty weather, and augmented by inclining the limb in particular ways. There is shortening of the latter; some wasting of the muscles around the hip; an inability of supporting the weight of the body long on the affected side without inducing dull pain in the articulation; absence of redness, and undue heat of the part, &c.

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OBSERVATIONS ON THE

TREATMENT OF HEMORRHOIDAL TUMORS,

CONNECTED WITH RELAXATION OF THE MUCOUS MEMBRANE OF THE RECTUM.

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Pathologists have described internal hemorrhoidal tumors as presenting themselves under three principal varieties: first, as consisting simply of elongated and convoluted vessels; secondly, as being formed by the dilatation of one or more veins in which the blood has become coagulated; and thirdly, as resulting from the effusion and coagulation of the blood in the cellular tissue immediately surrounding the mucous membrane of the rectum.†

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* Practical Remarks on Gout, Rheumatic Fever, and Chronic Rheumatism of the Joints.

* A Treatise on Fractures in the Vicinity of Joints.

† There is frequently difficulty in determining whether the coagulated blood found in hemorrhoidal tumors is contained in dilated vessels, or in the cellular tissue. In examining the parts, the small coagula of blood will almost always be found contained in cavities of a corresponding size, lined with a delicate smooth and shining membrane: the surface of this membrane at first sight so much resembles that of the inner coat of the veins as to lead to the conclusion that the blood is still within the hemorrhoidal vessels. The evidence upon which this opinion is

Each of these forms of disease may occasionally, although rarely, be found by dissection to exist independently of the other varieties, and uncomplicated by other changes of structure. But in the great majority of cases, whatever may be the primary form in which the affection presents itself, subsequent alterations are produced which exercise a marked influence upon the progress of the disease, and have an especial reference to the structure and dependent position of the parts. The first effect of an internal hemorrhoidal tumor is to raise the mucous membrane, to separate it from the muscular coat, and to cause it to protrude into and encroach upon the cavity of the rectum: the lower aperture of the bowel is thus narrowed, and increased efforts are required in order to evacuate its contents. The straining which accompanies these efforts forces the tumor and the mucous membrane which covers it below their usual situation, but as they soon recover their position, no further inconvenience is perhaps at the time experienced. At length, however, some slight attack of inflammation occurs in the part; the hemorrhoidal tumor is increased in size by the deposition of lymph and serum, and renewed efforts are made which force it farther down, and at length expel it from the extremity of the bowel.

The peculiar disposition of the muscles situated at the lower aperture of the rectum, now exercises a marked and very important influence upon the progress of the disease. The extremity of the bowel is surrounded not only by the muscular fibres which constitute its proper sphincter, but also by the posterior and superior portion of the *levator ani:* this portion of the muscle consists of a broad band of fibres, which embrace the sides and the back part of the rectum, and sling it forward towards the pubis.[*] The last inch and a half or two inches of the bowel are thus surrounded by muscular fibres capable of exerting very considerable pressure upon any body placed within their grasp. When, therefore, any tumor in the bowel is forced below its natural level, and becomes encircled by the fibres above mentioned, it is placed in circumstances very similar to those of a knuckle of intestine in a hernial sac. The degree of compression may vary from that which is attended with only a slight, dull, heavy aching pain of short duration, to that which produces real strangulation, preceded by the most acute suffering.

CASE I.—A gentleman of plethoric habits, had been subject to piles for fifteen or twenty years, and occasionally experienced great uneasiness and irritation about the rectum. During an attack, he was observed frequently to change his posture, and to seek some hard projecting corner of a chair to sit upon. The pain upon one occasion being much more severe than usual, he was confined to his bed, and I had an opportunity of examining the parts. Upon separating the nates, a small portion of a highly congested livid warty-looking excrescence could be seen forced down within the grasp of the sphincter. This tumor was of a dark purple colour, and so exquisitely tender, that he would not allow the requisite attempt to be made in order to return it to its original situation within the bowel. During the night following my examination, the pain entirely and somewhat suddenly ceased. From that time to the present, a period of upwards of six years, he has had no return of his former symptoms.

There can be no doubt that, in this case, the action of the sphincter muscle produced the same effect as if a ligature had been applied to the base of the tumor, and that the patient was cured of his disease in the same way as if this operation had been performed. In the great majority of cases, the circular fibres, above mentioned, exert a comparatively slight degree of compression, but still sufficient to produce an important effect upon a tumor placed

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based does not, however, appear to be very conclusive: first, because it frequently happens that no communication can be traced between the cavity in which the blood is contained and the neighbouring vessels; and, secondly, because it has been proved that blood coagulated in other parts may have a membrane formed upon it, derived from the blood itself, and assuming all the appearances of a serous covering. Cases where this membrane has been formed upon the surface of coagulated blood are recorded by Mr. Hewett in the 28th volume of the Medico-Chirurgical Transactions: and preparations illustrative of the same subject may be seen in the museum of Guy's Hospital: see Nos. 1523^{25} and 1525^{64}.

[*] This portion of the levator ani, which is seldom properly described in anatomical works, is well represented by a plate in the fifth volume of the Dublin Hospital Reports.

within their grasp. A very slight degree of pressure is sufficient to retard the free return of blood from the part. This is necessarily followed by congestion and swelling of the tumor, and places it under those conditions which of all others render it most liable to repeated attacks of inflammation. The tumor, which was originally of a red colour, now assumes a dark purple appearance, and the mucous membrane in the neighbourhood being drawn upon whenever the pile is forced below its natural level, at length assumes a permanent disposition to "bag," and portions of it are continually being forced through the lower aperture of the bowel. These changes are generally accompanied by an occasional dull, heavy aching pain, either in the perineum or in the rectum; but usually it is not till repeated attacks have been experienced, that the pain and inconvenience are sufficient to induce the patient to seek for surgical relief.

The removal of hemorrhoidal tumors either by ligature or excision, affords, when it can be had recourse to without danger, an easy and effectual remedy for the disease. But there are cases in which the common mode of operating is not unattended with danger; and it will not unfrequently happen that a patient wishes "something to be done," although he is unwilling to submit to the pain and inconvenience attending the ordinary operation.

It will occasionally happen, from some peculiarity of the constitution, either natural or acquired, that the healthy adhesive inflammation will not take place after a wound, however trifling, of the rectum. "I have had the misfortune," says Sir B. Brodie, "of losing three patients out of the great number on whom I have, in the course of the last thirty years, performed the operation of applying ligatures to piles. In each of these cases, on examination after death, I found diffuse cellular inflammation, and a sloughy condition of the cellular membrane between the mucous membrane of the intestine and the muscular tunic."* In such cases, the inflammatory action not being circumscribed by the healthy effusion of lymph, is not confined to its intended limits, and, instead of repairing the injury that has been done, becomes itself a new and formidable disease. This termination to the operation for the removal of piles is unfortunately too well known to require farther notice; but another result occasionally presents itself which has not received the same attention from the profession, nor been so satisfactorily accounted for.

Case II.—Thomas Duffy, æt. 42, was admitted into St. George's Hospital on the 15th of October, 1845. On the 30th of the same month he was operated upon for piles. The external tumors were removed by excision, and the internal were tied in the usual way. On the 5th of November the ligatures had all separated, and no peculiar feature presented itself in the case. On the 9th he had a rigor, but experienced no pain in any part.

10th, 11th, and 12th.—On each of these days the rigor was repeated, followed by fever.

13th and 14th. — He experienced great pain in the right hypochondriac region, and vomited a large quantity of green fluid.

15th.—The left knee-joint had become swollen.

He died on the 17th.

On examining the body, recent effusion of lymph was found upon the right pleura. Both lungs presented, through their whole extent, numerous large spots of venous congestion and condensation. In one of these spots upon the right side was found the commencement of a secondary abscess. The coagula in the right auricle of the heart were of a dirty yellow colour. The liver was found thickly studded with abscesses, some of which were as large as a turkey's egg. The mucous membrane of the rectum was of a darkish green colour, and thrown in many places into ridges by the prominence of the hemorrhoidal veins: several of these were hard, thickened, and filled with lymph and pus. The inferior mesenteric vein was in a similar condition, and at its junction with the splenic vein there was a thick coagulum containing pus. The *vena porta* and splenic veins were apparently healthy. The cavity of the left knee-joint was filled with pus.

Case III.—John Munday, æt. 36,

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* See Med. Gazette, Lecture II. 1843.

was admitted into St. George's Hospital on the 3d of September, 1845. He had suffered from the usual symptoms of piles for eight years, and his general health had evidently become impaired. On the 16th of September, the piles were tied in the usual manner, and the ligatures had all separated on the 23d. The next day he had a rigor, followed by heat of skin and rapid pulse.

On the 23d the countenance was very anxious, and slightly jaundiced; pulse 150, weak and irritable; skin extremely hot and dry. He experienced no pain in any part, but still the symptoms continued unrelieved, and he died upon the 28th of the same month.

On examining the body, recent effusion of lymph was discovered on the right pleura, and secondary abscesses were found in both lungs.

About the same time that these cases occurred, I had the opportunity of examining the rectum which had been removed from the body of a gentleman who had died with effusion of bloody serum into one of the pleural cavities. The usual operation of applying ligatures to some hemorrhoidal tumors had been performed, and the patient sank with extreme prostration a few days afterwards. The only peculiarity that could be detected in the appearance of the rectum was, that the blood was still fluid in one of the largest veins, which led directly to an ulcer, produced by the operation; even at the extremity of the vein near the wound there was no appearance of coagulum.

It was shewn by Mr. Hunter that if a vein were inflamed, and its cavity not completely obliterated, the product of the inflammation might find its way up the vein, and be carried in the course of the circulation;[*] and in other parts of the body the danger of tying veins has been generally acknowledged. The cases above related shew that the veins of the rectum do not always afford an exception to the general rule; nor is it difficult to conceive the way in which foreign matter may enter the system through the hemorrhoidal veins, after the common mode of operating for piles. In passing a needle armed with a ligature through the base of a hæmorrhoidal tumor, it must occasionally happen that one of the larger veins of the rectum is transfixed; and although a vein is seldom found in this situation sufficiently large to allow the needle to pass through it without completely dividing it, yet when the ligatures are tied upon the opposite sides of the tumor, the parts included in them (being connected more or less closely with the vein) will have the effect of separating the sides of the vein from each other. The wounded vein is thus *held open*, and maintained in a condition most favourable for the direct absorption of pus, or of any secretion that may present itself.[*] The first means provided by nature against the entrance of any foreign matter into an open vein is the coagulation of the blood; and in the vast majority of instances this effectually seals the vessel. But in cases where the extremity of a divided vein remains open, and the coagulum is not sufficiently firmly formed, morbid secretions may become mixed with the blood, and the whole system suddenly affected, as in the preceding cases.

When, from any of the causes mentioned, or from timidity on the part of the patient, it is desirable to avoid the common operations of tying or removing the hemorrhoidal tumors, are there any other means, not liable to the same objections, by which the disease may be effectually cured?

CASE IV.—S. S. W., Esq., about 70 years of age, had been troubled with the usual symptoms of piles for many years. In the summer of the year 1844 the inconvenience had greatly increased, and it became, to use his own words, "absolutely necessary that something should be done." His general health at the time was evidently upon the decline, and his legs were swollen and œdematous. On examination I found the margin of the anus surrounded by soft livid tumors, together with a considerable portion of prolapsed mucous membrane, which he was unable to return into the bowel. The projection altogether was the size of half a large orange. Considering the state of health of this patient, I was unwilling to perform the common operation, and I ultimately determined to destroy a portion of the relaxed mucous membrane upon each side of the bowel, with the strong nitric acid[*]. This was easily accomplished, with the precautions hereafter mentioned; and I had the satisfaction to find that the operation was attended with scarcely any pain.

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[*] See Mr. Hunter's paper on "Inflammation of the Veins," in the "Transactions of a Society for the Improvement of Medical and Surgical Knowledge." vol. i. 1793. See, also, preparation in pathological museum of the College of Surgeons, No. 1728.

[*] See a table of Secondary Inflammations, published by the author in the MED. GAZ. of the year 1845.

For some time after this operation the hæmorrhoids descended every time that the patient had a motion; and at first little good appeared to have resulted from the application. The small sores left after the separation of the sloughs soon, however, began to heal; and as their edges were drawn together by the process of cicatrization, the parts descended less frequently, and in three weeks from the time of the operation I had the satisfaction to find that the whole of the parts were habitually retained within the sphincter. The distressing symptoms from which this gentleman had so long suffered were now entirely relieved; and although I saw him occasionally for many months afterwards, I never heard that he experienced any return of his former complaint.

It is important to remark that the benefit to be derived from such an operation must not be expected till the small ulcers made by the caustic begin to heal. The loose folds of mucous membrane are then drawn upon, and the whole of the mucous lining is rendered more tense. Each small cicatrix, moreover, serves as a permanent point of attachment for the relaxed membrane, and consequently the inner coat (which alone descends in such cases) is retained permanently in contact with the other coats of the bowel.

The degree of pain experienced in this operation depends in great measure upon the way in which the nitric acid is applied: the sensibility of the thin skin around the anus is very great, and if the acid is allowed to come in contact with it, the degree of tingling pain experienced is very considerable; if care be taken, on the other hand, to confine the application of the acid to the comparatively insensible mucous membrane, a slight uneasy sensation in the lower part of the abdomen is generally all that is complained of.

12, Dover Street, July 1848.

[To be continued.]

ACTION OF CHLOROFORM.

By W. B. KESTEVEN, M.R.C.S. &c.

It has been assumed that the loss of pain consequent on the administration of chloroform is dependent on the loss of consciousness which is produced, and that therefore this and similar agents cannot strictly be called anæsthetic.

In reference to this question, I beg to offer the following case, if you should find space for its insertion in your journal:—A woman, aged 30, in her first labour, on account of the severity and duration of the pains desired the exhibition of chloroform. It was breathed for about three-quarters of an hour, from a pocket-handkerchief held at a short distance, about a quarter of an inch from the nose and mouth; the quantity used might have been three drachms.

She immediately discontinued her cries, expressed herself free from pain, and retained her consciousness, so as to maintain connected conversation during the whole time, and on the expulsion of the child's head, she observed that instead of pain, "it was an agreeable sensation of relief."

The purity of the chloroform used, had been ascertained by the tests recommended by Dr. Letheby.[*]

From this case, as well as others which have been published, it is evident that loss of mental consciousness is not inevitably a condition of loss of pain under the use of anæsthetic agents: it is clear that its power was here exerted only on that portion of the nerves whence pain is made evident, or in altering that condition of the nerves, whatever it may be, which we recognise as pain.

I fully concur in your observations on the hesitation and caution to be observed in the administration of chloroform vapour; the occurrence of even only one death in a million of cases, should induce us to pause ere we employ such a potent agency. The cases you published in your last number will have the effect on myself, and doubtless on others, of making us more careful than hitherto in its administration; but it appears from a consideration of other cases which have been published, that ill effects have seldom followed its exhibition when it has been administered during severe pain, as in the last stages of labour, capital operations, tic douloureux, &c. and that where it has been known to produce any injurious consequences, it has been most frequently when administered in the absence of pain—as before tooth-drawing, and other minor operations.

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[*] See Dr. Houston's paper in the Dublin Medical Journal, vol. xxiii.

[*] MED. GAZ., June 16.

Is it probable that the presence of pain forms the condition of safety? that the greater part of its power is expended on altering that state of the nervous system under which pain is felt? If such be in any degree the truth, the objections to its *cautious* use in midwifery and some other cases are much shorn of their force.

I would with great deference submit that the fact of the pain of childbirth being "one of the general conditions of man," constitutes no valid reason against the diminution or removal thereof, *if it can be done safely*; the risk of life, or of damage to the constitution, constitutes the only valid objection, and this, as you have justly remarked, occurring in only one in ten thousand, should be a solemn caution.

The use of opium and other medicines in midwifery—in fact, the healing art altogether—may with some show of reason be objected to, on the ground that disease and pain form part "of the general condition of man."

Again, there are few among the most valuable remedial agents, but have produced ill effects in their early, or by their injudicious, use; and while it is beyond a doubt that powerful anæsthetic agents have been in too many instances rashly and unwisely exhibited for a trifling pain, or no pain at all, yet I think it will be admitted that here, as elsewhere, the abuse of a thing is no argument against its use. Further experience is required to enable us to draw distinctly the line of separation for every case.

Holloway, July 1848.

REMARKS ON THE
PHYSIOLOGICAL CONNECTION
OF THE
SPINAL ACCESSORY NERVE
WITH THE
POSTERIOR ROOTS AND GANGLIA OF THE SPINAL NERVES.

By John Denis Macdonald,
Student of King's College, London.

Preparatory to the following observations, it will be necessary to give a brief outline of the anatomy of the parts to which they refer, but more especially as relates to the posterior roots and ganglia of the spinal nerves, one or two points merit notice, which have hitherto been either very lightly considered in anatomical works, or not mentioned at all. The posterior roots consist of much larger fasciculi than the anterior, and, having a more extended origin from the side of the cord, they leave very small spaces between them as compared with the anterior: indeed, in some instances, they scarcely exceed the intervals between the fasciculi of the roots themselves. Upon each posterior root is developed a ganglion, upon which the anterior seems to lie only in contact: for the present purpose they will be considered as nervous centres, simply consisting, in this case, of grey nervous matter entangled in a nodular interlacement of nerve-tubes. Not only is there this apparent approach to a continuity of the posterior roots in a linear series, but there also exists a number of well-defined nervous filaments, which occupy the angular spaces between the roots and ganglia: they may be traced as commissural, first between the ganglia and cord, and secondly between the ganglia themselves: the usual arrangement is, that a considerable trunk, which generally lies at the under edge of each root, springs from the cord, and sooner or later divides into two branches, which may be traced into the ganglia, above and below, enveloped at this point by a distinct fibrous sheath; while, connecting these branches with one another, is a bundle which acts as a commissure to the pair of ganglia between which it is placed, and into which both its extremities can be traced. The spinal accessory nerve may be seen to arise by a very delicate filament from the side of the cord between the fifth and sixth cervical nerves, and in the space bounded in front by the ligamentum dentatum, and behind by the posterior roots of those nerves, but much nearer the latter.

This small filament lies at first parallel with the cord, and embedded in its substance; it next, at the point of origin of the fifth nerve, emerges from the cord lying between it and the pia mater, which last begins to envelope it about this point; it soon afterwards receives a number of minute radicles from the neighbouring parts of the cord, and others from the posterior roots of the spinal nerves: it gradually augments in bulk as it proceeds upwards, outwards, and forwards; the filaments of origin increasing, both in number and size, from below upwards. It is by no means true that the spinal accessory is limited in its origin to the middle line of the latteral region of the cord, for many radicles may be traced backwards from this line to the emerging point of the posterior roots of the nerve, and forwards beneath the ligamentum dentatum; towards the anterior these two orders of filaments generally unite in pairs, forming larger bundles which join the common trunk on its inner side. The anatomical connections of this nerve, especially with the posterior roots of the cervical nerves, are very remarkable. There is a ligamentous structure which borrows a tubular envelope from the investments of the nerve within the theca, which seems not only to tie it down to the dura mater, just above the posterior root of the second spinal nerve between it and the dentiform process immediately above, but to perforate the dura mater at this point, and become connected with the cellular tissue about the arteria vertebralis; it is probable that some nervous filaments pass out through this tube to be distributed externally.

The spinal accessary nerve, from this extensive origin in the neck, enters the cranium by the foramen magnum, and passing beneath the vertebral artery, it joins the other divisions of the eighth pair of cerebral nerves, of which it forms part, and emerges with them from the skull by the foramen lacerum posterius; it bebecomes intimately united with the par vagum, and, indeed, gives off a very distinct bundle of filaments, which may be traced descending with that nerve, and is no doubt distributed with it on the mucous membrane of the air passages; while the trunk of the accessary nerve itself, after piercing the sterno-mastoid muscle, is supplied to the trapezius over the acromion process. This brief sketch will be quite sufficient for the purpose of pointing out a very ingenious explanation of the functions of this nerve put forward by Dr. Todd and Mr. Bowman, with the view also of accounting for its singular and extended mode of origin from the cord.

They suppose, with Bell, that this nerve plays an important part in the respiratory process, but consider that the two portions above described fulfil each a distinct office from the other—viz., that that portion which seems to be distributed on the pulmonary mucous membrane with the pneumo gastric nerve, is afferent or excitory in its function; while the other division, which is supplied to the sterno-mastoid and trapezius muscles, is efferent or motor, so that any stimulus applied to the surface of the air-passages is propagated along the excitor portion, which, by its large connection with the respiratory tract of the cord, induces a reflex action in the motor portion of the same nerve, and also in the other nerves which have an immediate connection with this part. The influence of the motor portion of the spinal accessary nerve in the function of respiration is manifest when the action of the muscles which it supplies is taken into account: their chief operation is to elevate and fix the whole shoulder; and consequently all the inspiratory muscles connected with the bones comprising it—viz., the subclavius, greater and lesser pectoral, serratus magnus, and latissimus dorsi—can act more effectively in an extraordinary effort. Now, embracing the very beautiful idea above mentioned, may not impressions be received by the excitor portion of the spinal accessary, and propagated not only to the respiratory tract of the cord, but also, by means of the commissural filaments previously described, from ganglion to ganglion of the spinal nerves, and thereby from one segment of the cord to another: so that an extensive reflex action may be induced in all the motor nerves of the cord,—manifesting such phenomena as occur during suffocation, or the inhalation of noxious and stimulating vapours? In this way a very satisfactory explanation of the use of the ganglia is afforded, different from any hitherto advanced. They seem, according to this view, to act as centres, each of which receive impressions (either directly conveyed to it by its own proper sentient nerve, or indirectly from other nerves by means of the neighbouring ganglia), and propagate them to the cord from which reflex actions originate. And further, the roots of the nerves being, as it were, commissural between the ganglia and cord, serve to carry impressions to the latter from distant parts in the manner above explained, independent of any influence derived from the nervous trunks to which they give rise.

PRECAUTIONS IN THE TREATMENT OF FEVER.

Knowing what organic lesions may exist, we should hesitate and feel our way before adopting any plan of treatment which might call up symptoms at present latent. But we must go further: a patient presenting inflammation of some organ, as of the lungs, with obscurely marked constitutional symptoms, must be treated very cautiously; for behind this inflammation, fever may be going on, which it might cost the patient his life to unmask by ordinary treatment directed to subdue the inflammation. And further yet: we must not always expect definite disease of some important organ to tell us that the patient is really very ill, and to put us on our guard. It is only a part of the treatment of fever, which regards it as characterised by its own unmistakeable signs: we must be prepared to recognise it, and its organic results, though the latter can only be surmised to exist, and itself appear to have passed away and left only simple weakness: to fear it again where simple weakness seems to mask the symptoms of ordinary disease, and to look beyond this weakness itself, if it be the only obvious symptom, so as to catch the earliest indications of latent fever; for fever and weakness become truly commensurate terms only when all treatment has to give way to the simple indication of obviating the present tendency to death.—*Ormerod's Clinical Observations on Fever.*

MEDICAL GAZETTE.

FRIDAY, AUGUST 11, 1848.

The Quarterly Return of the Registrar-General is of especial interest at the present time, when there is great reason to apprehend that the inhabitants of this country may be again exposed to the attacks of the Asiatic cholera. About three weeks since we ventured to hint that the health of the metropolis was in a favourable state, and that there was no indication of the fatal prevalence of those disorders which are usually regarded as the forerunners of this formidable disease. The return of the mortality for the quarter ending June 30th, is on the whole reassuring. The Registrar remarks—

"It is gratifying to observe a very remarkable improvement in the state of the public health. The number of deaths registered in the three months ending June 30, was 46552; which is less by 11158 than were registered in the winter quarter of the present year, and less by 5033 than were registered in the corresponding quarter ending the last day of June, 1847. The mortality of the country, after having been excessively high during the latter half of the year 1846, the whole of 1847, and the first quarter of 1848, is now little above the average of the nine years 1839-47. The mortality, however, is still much higher than it was in the spring quarter (April, May, and June), of 1844, when the number of deaths was only 38977; which, taking the increase of population into account, implies a lower rate of mortality than has been experienced in the spring season of any other year.

"In *London* the deaths in the quarter were 12945; the deaths in the preceding quarter were 16455; in the quarter ending December, 1847, when influenza prevailed, 19605. Influenza has almost disappeared: it was the cause of death in only 50 cases during the 13 weeks ending in June. Small-pox was fatal to 381 persons in London; measles to 306; *scarlatina* to 816; hooping-cough to 441; purpura and scurvy to 12; typhus to 882; erysipelas to 129. *Small-pox*, *scarlatina*, and *typhus*, were prevailing epidemics in London. Scarlatina in one week destroyed 107 lives. Typhus was at a maximum (1279) in the last quarter of the year 1847: it is now declining; but it prevails invariably longer in the epidemic form than other diseases of the class. The diseases of the tubercular class—namely, scrofula, tabes, consumption, and hydrocephalus, fluctuate very little; to them 2649 deaths were ascribed in the June quarter of 1841, and 2403 in the June quarter of 1848; which were the highest and lowest numbers returned in the 8 years 1841-8. Diseases of the lungs declined rapidly; they were the cause of 176 deaths in the first week, and of 76 deaths in the last week of the quarter.

"The deaths in London from diarrhœa, dysentery, and cholera, were 11, 23, 13, and 14, in the first four weeks; 27, 31, 37, and 51 in the last four weeks of the quarter. The mortality from these diseases is somewhat higher than it was in the corresponding weeks of 1847. The deaths ascribed to cholera in the June quarters of the eight years 1841-8, were, 1, 7, 8, 9, 2, 9, 4, 17; in the last year, therefore, though the deaths are not numerous, there is a slight excess. These three diseases are always most common in the three months of July, August, and September, when the temperature is highest."

We find in this report some remarks on the Asiatic cholera, which, as they are of immediate interest, we here transcribe:—

"There is as yet in England no trace of the epidemic of cholera which is ravaging Russia, from Moscow to St. Petersburgh, and ascending the Danube. It raged in the summer of 1831, seventeen years ago, at St. Petersburgh, reached Sunderland in October, London in February 1832, Paris in March of the same year. Whether it will pursue the same course now, travel at the same rate, and be less or more fatal, must depend on a variety of circumstances. If the visitation cannot be arrested, it is greatly to be wished that it should be deferred; for though enlightened communities have before been too much in the habit of postponing sanatory arrangements, and only commencing them when the plague is actually destroying them,—which is very like admitting the enemy within the city walls and then putting the fortifications in repair,—it is certain that the great capitals of the continent were never in a worse condition to withstand an epidemic than they are at the present time."

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"It is not easy to determine from the vague terms employed in the letters and papers from St. Petersburgh, whether cholera is now more or less fatal than it was in the former epidemic, which began on June 14, 1831, and ended in April 1832; attacked 13905 persons, and was fatal to 9696 in that city.* It is usual in this country, in speaking of the population of St. Petersburgh, to refer to the province, which, according to an official return made by the Russian Government, had in 1842 a population of 465791, or 229427 males, 236364 females, on an area of 15087 English square miles—an area equal to more than one-fourth part of the area of England and Wales (57,812 square miles). The mortality of this province was 4·417 per cent. among males, 3·770 per cent. among females in 1842. The *province* of Petersburgh contains nine large districts, the *district* of Petersburgh proper contained only 28,911 inhabitants: 15519 males, 13392 females, among whom the deaths in 1842 were 833 males, 628 females.

"The *government* or *province* of Moscow—on an area of 11688 English square miles—had in 1842, 1398977 inhabitants—740517 males, 658460 males: the deaths among males were 26643, females 26407, in 1842; the mortality of males was 3.599 per cent., of females 4.010 per cent. The *district* of Moscow had 455644 inhabitants (with which it is usual to compare very erroneously the population of the *province* of St. Petersburgh): the males were 275328, females 180316; the deaths of males 6950, females 6678, in 1842. The mortality, in 1842, of females in the province of Moscow was 4.010 per cent.; of females in the *district* of Petersburgh 4.689; the mortality of females in London within the Tables of Mortality in the same year was 2.220. Petersburgh and Moscow are in nearly the same sanatory condition as London was in the 17th and 18th centuries; and under any circumstances the mortality from cholera in London, or in the other cities of the United Kingdom, will probably not approach the mortality in Petersburgh, where the mortality was raised 84 per cent. in 1831-2, when the church burials in London were raised from 38794 in 1831 to 43082, or 11 per cent. The deaths in Paris were raised by cholera from 31115, in 1831 to 53382, in 1832, nearly 72 per cent. 18602 deaths were ascribed to cholera in the official returns. The scanty supply of water, the bad drainage, the filthy state of the privies (which can scarcely be conceived), the wretchedness of the poor, who have no poor law to fall back on, sufficiently account for the devastation of cholera in Paris sixteen years since; and sanatory improvement is, unfortunately, one of those practical questions which, not appealing to the imagination, has hitherto attracted little public attention in France.

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* The deaths in Petersburgh up to July [illegible] of the present year were 7623. This would imply a much higher mortality than that experienced in the first epidemic. Little dependence, however, can be placed upon returns, or upon anything else commenced in the midst of the consternation which an epidemic occasions. It is highly desirable that all the great cities in Europe should publish, at all times, such weekly statements of the mortality and cause of death as now appear in London. They should be commenced before any epidemic breaks out. Such tables have been published, however imperfectly, in London ever since the reign of Queen Elizabeth; and were begun at the suggestion of the able statesmen by whom she was surrounded. When simultaneous observations are recorded on an extended scale, it will be possible, with the assistance of a body of trained Health Officers, to determine the singular laws which regulate the diffusion of zymotic diseases.—REG.

The table of metropolitan mortality shows a great increase in the deaths from zymotic diseases during the last quarter. This increase is especially observable under scarlatina and typhus. If we take the June quarters of the two preceding years, we have the following results:—

Deaths from	1846.	1847.	1848.
Small Pox . .	87	181	381
Measles . . .	163	277	306
Scarlatina . . .	177	174	816
Typhus . . .	364	568	882

With respect to diarrhœa and cholera, we have the following comparative amount of mortality:—

Deaths from.	1846.	1847.	1848.
Diarrhœa . . .	153	202	239
Cholera . . .	9	4	17

The return of the week ending July 29th, indicates a sudden increase of deaths from these diseases, which may be merely a result of some temporary changes in the temperature and hygrometric condition of the atmosphere. There is nothing in this report to confirm the rumour that cases of Asiatic cholera have already appeared in various parts of the metropolis.

In the Parliamentary debates we have seldom met with an official statement, regarding the Asiatic cholera, more calculated to excite alarm than that made by Lord Morpeth on Monday night in the House of Commons. His Lordship was desirous of neutralizing the effect of a most injudicious alteration which had been made in the Public Health Bill. There was reason enough to support his views without bringing in the Consular correspondence on the cholera; but this appears to have been employed as a heavy battery to demolish at once the arguments of all objectors. It is not our desire that there should be any concealment of the truth: but then we should have the *whole truth*; and we very much question whether letters written by foreign Consuls, under the excitement and fear occasioned by the sudden irruption of a formidable disease, can be trusted as true exponents of the facts. Fear is one of the great predisposing causes to an attack of cholera: and the statement of Lord Morpeth appears to us to be well calculated to excite a general panic. Let our medical readers consider what is likely to be the effect of the following letter read publicly on Monday last by hi Lordship:—

The latest communication received on the subject was a second despatch from Mr Fonblanque, dated July 9:—

"Belgrade, July 9.

"Sir,—A letter from the small town of Graditza, on the Danube, about twenty leagues hence, states—

"'The cholera has appeared in a dreadful form; we have heard of no recoveries, and most of the cases terminated fatally within twelve hours.

"'A healthy woman while occupied in cooking, was attacked by agonizing cramps in the limbs, which brought her to the ground in an instant; her skin became blue and cold, and in less than five minutes she expired. Two men in the next village died almost instantaneously; their bodies all blue, and their knees drawn up to their stomachs. Every hour we see corpses carried out for interment, it being impossible to keep them until the next day.' "I am, sir,

"T. DE G. DE FONBLANQUE.

"John Bidwell, Esq."

This is bringing up the heavy artillery with a vengeance to batter down the trivial objections of the few unreasonable opponents of the Public Health Bill. In the whole statement there is not a spark of consolation—not even a ray of hope to the timid. Here is a woman attacked while cooking, brought to the ground in *an instant*. Her skin became blue and cold, and she was dead in *five minutes!* Our medical readers will, we think, agree with us in rejecting this case as a gross exaggeration; but admitting it to be true, it is preposterous to suppose that a Public Health Bill, aided by all the appliances of medical art and skill, can by any possibility prevent the occurrence of such cases. The probability is that the story rests upon hearsay testimony, and is unworthy of belief: it is, however, likely to have a most injurious effect upon the public mind. His lordship shall now speak for himself.

"It was far from his wish to excite undue alarm on the subject of the cholera; but he would not be acting a fair and friendly part to the public, were he to conceal the fact that it had been ascertained that the cholera was advancing in precisely the same direction as that which it pursued in 1832—that it had been heralded in this country by the same precursor as on the former occasion—namely, a great amount of influenza, which prevailed a few months ago, and by a great increase of diarrhœa, ending fatally in many cases*, now prevalent—and that by recent accounts it has spread as far west as Riga, Narva, and Revel. It would be most gratifying to his feelings to be able to state that this frightful visitation was approaching us in a more mild form than that under which we had already had dreadful experience of its mortal effects; but unfortunately that was not the case, as would appear from the communications received from our Ministers and Consuls abroad, some of which he would take the liberty of reading to the house. A return of the casualties from cholera at St. Petersburgh to the latest date, July 24, gave the following results:—cases, 17,742; deaths, 10,138; cures, 4,618; under treatment, 1,986. Proportions per 100—deaths, 57; cures, 26; under treatment, 17. At Moscow the cases were 9,754; deaths, 4,309."

Now what we complain of here is, that we have not the *whole* truth. Lord Morpeth appears to forget entirely that London is not St. Petersburgh, and that the mortality from cholera in one city cannot be taken to represent the mortality from the disease which is likely to occur in the other. His lordship appears to us, however, to be strangely inaccurate in his statements. On his own showing, the deaths from cholera in St. Petersburgh, according to the latest return (July 24), have been only 57 per cent. If our readers will refer to the preceding article they will find, from the calculations of the Registrar General, that the deaths in St. Petersburgh when cholera is not present, are more than double of those which occur in this country. Thus, in 1842, the deaths were from 37 to 44 in 1,000; while Lord Morpeth stated n Monday night, just before making his startling exposition, that for all England and Wales they were not more than 21 to 1,000 of the population! In 1831-2, i. e. during the prevalence of cholera, the mortality in St. Petersburgh was raised to 84 per cent.; while in London it was raised not more than 11 per cent., or about *one-eighth* of the St. Petersburgh mortality! If we add the present mortality from cholera (57 per cent.) to the average deaths in St. Petersburgh, it will fall far short of the rate of increase (84 per cent.) assigned by the Registrar General to the Russian cholera of 1831-2. In fact, it will not make more than 61 per cent. On what pretence, therefore, could his Lordship assert that the cholera was approaching us in a more alarming and more frightful form? Figures, upon which we think full reliance may be placed, prove that it has not even increased the St. Petersburgh mortality to the amount of 1831-2. In giving this awful account of the proportionate deaths from cholera in the Russian capital, his Lordship should have told his panic-stricken hearers that these figures did not fairly represent the probable mortality from the disease in this country; that at all times the deaths were twice as numerous in St. Petersburgh as in England and Wales; and that in the former visitation of cholera nearly *eight* persons died in that capital when *one* only died from cholera in London. We have a great desire that the Public Health Bill should be enacted into a law; but we deprecate any attempt to procure this object by an appeal, founded on an insufficient acquaintance with facts, to the fears of the public.

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* The fatal cases are chiefly among *infants*, which are comparatively exempt from attacks of cholera. Out of 141 fatal cases of diarrhœa last week, 117 were under five years of age!

WE elsewhere* insert a good-humoured letter from a correspondent, imputing to us a charge of inconsistency, because we have strongly advocated the necessity of publishing at certain intervals general indices to periodicals. We have praised in a contemporary, the execution of a task which we have omitted to perform with respect to our own journal, although our argument goes to shew that a general index is even more urgently required for the MEDICAL GAZETTE than for the BRITISH AND FOREIGN MEDICAL REVIEW. Now we are quite willing to concede that our friendly monitor, Mr. Jones, is justified in drawing the inference that the old series of our journal urgently requires a General Index; and we are equally ready to adopt his advice—*i. e.* "of taking a lesson from our own words in future," and be careful how we praise others for that which may appear a crime of omission on our own part. There is, however, one little proviso which must not be lost sight of. Every question has *two* sides; and some questions, according to the views of ingenious barristers, may have three or even four. Mr. Jones tells us *totidem verbis*,—"I am sure your subscribers would most cheerfully pay amply for it as a distinct publication from the journal." We fully recognise the necessity and value of such an index, to render the valuable information contained in about forty volumes of this journal easily accessible to practitioners; but its compilation would involve a large amount of labour, and entail upon the proprietors of the journal, considerable expense. Such a work can only be fairly undertaken by subscription; and we have to announce to Mr. Jones and others who have addressed us on the subject that a list is now opened with the printers, Messrs. Wilson and Ogilvy, who will receive the names of those gentlemen who may be desirous of becoming subscribers to a General Index to the old series of the LONDON MEDICAL GAZETTE. This will put to the test Mr. Jones's prediction. We only require to be assured that a sufficient number of our subscribers take the same view of the subject as that advanced by our correspondent, in order to commence the preparation of a General Index.

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* Page 256.

Reviews.

The Maternal Management of Children in Health and Disease. By THOMAS BULL, M.D., Member Roy. Coll. of Physicians, &c. 3d edition, carefully revised, and considerably enlarged; pp. 400. Longman and Co. 1848.

THE maternal management of children concerns those early hours in the starting point of one's existence which stamp our future character in mind and body, in health and disease. It takes the precedence of all other sciences, for it is impossible to conceive an office more important in the social system, a duty more onerous in its undertaking, or a sense of gratification more permanent in its results, than the proper, or rather the scientific, management of children and infants. We could show upon very substantial grounds the evils that follow from mismanagement, which do not terminate where they have begun, in the nursery, nor fail to bear fruit in the noon-day of age according to the seed that has been sown in the twilight of our years. The end of our lives responds to their beginning—the effect is proportioned to its cause, neither can the effect surpass its cause. For the moving throng of mankind are only so many animated effects, resulting from the care or carelessness with which they were nurtured or left to chance, when life was young, and the morning of their days had scarcely dawned upon their senses. Were it possible to impress this grand truism powerfully on the minds of mothers, how much good might be achieved that is now lost for ever through inadvertence, and how much evil might be warded off that is now fostered by ignorance, or actually engrafted by a prejudicial perseverance in erroneous habits, and mistaken views of right and wrong.

Dr. Bull has struck out a path for himself, by undertaking to give instruction upon the very subject we have just alluded to, and by stepping forward to teach in those quarters where the teacher is most required. Trite as the title of his book may sound, addressed as it is to the young mother and the nurse, there is, nevertheless, a praiseworthy intention at the bottom of it, as well as a solid reason, which if it is not precisely a scientific one, is, at least, such as could not be expressed except by a scientific person. We are accustomed to regard nothing but lofty works of art as the proper effort of genius, which appeals to the select few whose talents exalt them above the ordinary race of mortals. These productions are the splendid lamps of intelligence, that burn only in the halls of the initiated. But we forget the crowd that stands without—the young, the feeble, and the untutored. It is these that demand the master and the guide, to point out to them the way they should go, and to show them in what manner they should proceed. This is by no means an easy task, and requires nothing short of the best talents. Let any one try for himself, and he will discover the difficulty of teaching the alphabet of his own language, and the labour of instructing, we will not say an obstinate, but a willing child how to read. *Hic labor, hoc opus est,*—and thankful, indeed, ought we to be to any one who will bestow the time and patience necessary for the accomplishment of it. To do common things well is no mean merit.

It is the third edition that we are now noticing, and a great deal of new matter has been added to it, so much so, in fact, that it is almost a new work. The introductory remarks on the extensive mortality of children,—the general remarks on illness (Chap. IX.), and on the prevention of scrofula and consumption (Chap. XV.), are entirely new. The introductory part on ventilation (Chap. V.) is new. Chapter XII. is wholly re-written, and much added to it. Twelve new sections are subjoined to Chapter XIV.; and to several other chapters, as well as throughout the book, copious additions have been made. Dr. Bull evinces an earnest desire to render his work a useful one. To give information of the general management of children, such as every mother ought to possess, together with the directions for the domestic management of illness, such as every right-minded medical man would be pleased that she should have a ready knowledge of, constitutes the leading idea of Dr. Bull's book, and expresses the character which it professes to hold forth. If in any part he has advanced beyond this cautious line (which, however, we do not perceive that he has done), it is for the sake of those mothers without a medical adviser at hand, as he states in his preface; although such a trespass would, in our estimation, only tend to give greater weight, and impart a still higher feeling of benevolence to his efforts. Medical men are very fastidious on these points; they like to have every thing all their own way. The young practitioner is obviously better pleased with an ignorant patient than with an experienced one; while the old physician betrays a sort of instinctive horror against the growing intelligence of the rising generation, lest it should take him by surprise and push him from his stool. But such sentiments are vain. The more widely real knowledge is diffused, the better for all parties. As for ourselves, we would rather prescribe for a highly educated invalid with a well-regulated mind, than for a sickly patient full of whims and fancies; and to prefer the contrary, is to append a libel to our own understanding and acquirements. Experience must always surpass knowledge by as much as knowledge surpasses ignorance.

The best part of Dr. Bull's work is that which relates to prophylactics. At the present moment, when so much is written and said about sanitary reform, both in Parliament and out of it, little mention is ever made of the *cordon sanitaire*, so highly requisite in every well-ordered household. We have reason to believe that neglect and uncleanliness in the preparation of children's food are a frequent source of disease. A practitioner often finds himself bewildered by a series of symptoms, the source of which may, however, in many cases be traced to the employment of dirty utensils, or to the admixture of unwholesome food with the daily meal. In a doubtful case, therefore, we would advise him not to remain content with the statements of attendants, who can never be expected to inculpate themselves, but to inspect the vessels in which the food is prepared.

The inculcation of good principles is a noble achievement; for a principle, when it is once firmly established, becomes a dogma with the weight and resistance of a fact; for what is a fact, but a substantial dogma? no science can proceed against it, nor can any truth, human or divine, subsist without it. Now, it is among the uninformed that this mode of teaching is the most serviceable, precisely such as we apprehend the greater number of Dr. Bull's readers will be; and we are certain, that many of those who read his work attentively, will rise from its perusal possessed of rules of which they had been hitherto ignorant, and imbued with principles which they will feel it impossible ever to lay aside or forget.

Proceedings of Societies.

ACADEMIE DES SCIENCES.

10th July, 1848.

PRESIDENT—M. POUILLET.

M. LOUIS FLEURY read a memoir on the separate and combined action of the cold douche and of passive motion in the treatment of incomplete anchylosis.

M. Fleury has submitted several patients affected with incomplete anchylosis to the cold douche, in the hope of fulfilling two important indications.

In employing cold water as an excitor of the capillary circulation, he trusted to restore the secretion of synovia, to act on interstitial absorption and nutrition so as to restore to the fibrous tissue its flexibility and elasticity, and to the atrophied and more or less paralysed muscles their volume and contractility; to place, in short, the hard and soft parts in their normal condition.

In employing cold water as a sedative agent, he hoped to make forcible movements possible or less painful, and to reduce to their minimum the irritation in the joint, and the general reaction that such movements so often excite.

Four patients affected with anchylosis of longer or shorter standing, more or less complete, were treated with the cold douche, alone or combined with passive motion and the results lead to the following conclusions:—

1st. In certain cases of incomplete anchylosis, for which forcible movements would be useless or injurious, the repeated cold douche is preferable to any other means; it exercises a favourable action in rendering the capillary circulation and absorption more active, in modifying the vitality of the tissues, and in so restoring the parts within and without the joint to their healthy state.

2d. In those cases of incomplete anchylosis which demand the use of forcible movements, but in which they are impossible, owing to the pain, the irritation in the joint, and the general reaction which they excite, the cold douche acts better and more rapidly than any other agent in removing those bad effects, and permits the surgeon again to employ graduated forcible movements.

3d. In those cases of incomplete anchylosis which require and permit the use of forcible movements, a more speedy and sometimes a more complete recovery is gained by associating with them the cold douche.

Perhaps no cases give the surgeon more annoyance than those where incomplete anchylosis follows inflammation or injury in the neighbourhood of a joint, especially the elbow and the finger joints. This may usually be averted by bending the joint every day to an increasing extent, as soon as the progress of the case will permit. This does not, of course, apply to those cases of articular disease in which the limb is saved by the long enjoinment of absolute rest, and the production of anchylosis.

The bone-setters have a way, with cases of incomplete anchylosis, which very often answers. They drag, straighten, and bend the stiffened limb with great violence. They thus lacerate the new ligaments and shortened tendons that prevent articular motion; their patient can often immediately afterwards move the limb, and they then invariably tell him that the surgeon has miserably mistaken the case, that the joint was out, and that he has put it in again. I know of several such cases which affected somewhat the reputation of very excellent surgeons. The surgeon dare not, dreading the results, employ the violence resorted to by these men. But there is no doubt about the value of the treatment. It is a certain rough tenotomy.

M. Fleury is evidently alive to the value of graduated forcible movements as a means of treating incomplete anchylosis, and he would in some cases conjoin, and in others substitute, the cold douche. His three "conclusions," important if true, are based upon no more than four cases! How the cold douche is to restore to unused muscles their volume and contractility, to fibrous tissue its flexibility and elasticity, he does not tell us.

Pumping cold water on a sprained and stiffened joint is an excellent domestic mode of treatment. The combination of the cold douche with graduated movements may often be of unquestionable value. The cold douche should not, however, be long continued. We all know the remarkable effect of the cold douche to the head in allaying the most violent delirium, and the alarming prostration that its employment may occasion. M. Foville employs the affusion of tepid instead of cold water to maniacs; in such cases the delirium is completely subdued without prostration. The same plan answers in the delirium of fever, and in the violent paroxysms of chorea. The tepid douche may often be exchanged for the cold in the treatment of cases of incomplete anchylosis.

It is one of the important uses of chloroform, to administer it when any imperfectly anchylosed joint is suddenly and forcibly bent or straightened.

M. Fleury seems to lose sight of the value of tenotomy in the cases of which his memoir is the subject.

Medical Trials and Inquests.

NORFOLK CIRCUIT.

Huntingdon, Thursday, July 20.

CROWN COURT.—(*Before Mr. Baron* PARKE.)

CASE OF ALLEGED HOMICIDAL INSANITY. REJECTION OF THE PLEA.

CHARLES BURTON was indicted for the wilful murder of Harriet Burton, his wife, on the 22d of June last.

It appeared that on the 27th of May, about 9 o'clock, the prisoner and his wife were standing at their own door, conversing about the health of their child with their next-door neighbour. About 4 o'clock the next morning a loud scream was heard by the next-door neighbours, who started up, went to the window, and saw the prisoner's wife looking out of her own window. After some time an entrance was made into the prisoner's house, when he was found below, standing in his shirt, bleeding from the throat. On going upstairs the prisoner's wife was seen lying on the floor, quite dead, with her throat cut. The wounds on her throat were three in number and large, one dividing the vessels and nerves down to the spine. The prisoner had always been fond of his wife and child. To questions put to him by the surgeon he said that trouble had made him do it; that he was afraid his wife and child would want when he was gone; that he had been thinking of committing suicide for a week past; that he had not had a quarrel with his wife; that he had first thought of killing his wife and child when he got out of bed to destroy himself; that he made the first attack on his wife whilst she was asleep; that she rushed to the window; that he then killed the child, which was asleep, and, taking his wife from the window, held her in his arms, and with her back turned to him cut her throat; that he then tried to commit suicide, but had not the power; that he had been unwell of late, and had passed sleepless nights, but not sufficiently to apply to the surgeon. The prisoner exhibited no sorrow or remorse while making this statement.

In the opinion of the surgeon who had been called in, and who had known the prisoner long, the whole conduct of the prisoner shewed that when he committed the act he had not, owing to an uncontrollable impulse to which a human being may be subject, had control over himself. The perversion of the affections, in doing injury to those previously dear to the person, was one indication of insanity. The impossibility of resisting a sudden homicidal impulse was another. There was no necessary connection between suicidal monomania and homicidal monomania, but it would be more natural for a monomaniac who had been contemplating suicide to kill a person, than for one who had not. By monomania was understood an affection that for the moment deprives a person of all control over himself in respect of the particular matter. The prisoner's reason, however, did not appear affected, and he never had appeared to the surgeon to be under delusions. The monomania in the prisoner's case was attributable to the impression that he was coming to destitution. He had, in fact, been distressed about some property that ought to have come to him. The prisoner had said that his wife had reproached him before he made the second attempt; but that the feeling was too strong upon him. He did not appear sorry at first, but he did the second day.—In answer to a question from the learned judge, the surgeon said, "It is my opinion that he was in an unsound state of mind at the moment he did the act; that is my opinion of *all* cases of murder." (?)

It was further shewn that the prisoner had left his razor to be sharpened the day before, and had insisted on having it back on the same day, giving out that it was for some one else.—Mr. Crouch then addressed the jury for the defence, and contended that they must, in conformity with the evidence of the medical man, acquit the prisoner on the ground of insanity. The insanity was, as the surgeon had said, attributable to disappointment about property, as he would shew by witnesses.

Witnesses were then called, who shewed that the prisoner was entitled to a fourth share of £700, which the trustee, a shoemaker of Mount-street, Grosvenor-square, had invested in his own trade; that the trustee had become insolvent; and that the dividend would be a small one. This was made known to the prisoner rather more than a week before this occurrence, and seemed to affect him very much.

Mr. Baron Parke told the jury that the evidence left but one question for their determination—Was the prisoner a responsible man when he did this dreadful act? That depended upon whether he knew at the time the nature and character of the act he was doing; and if he did, that in doing so he was doing wrong. Though medical men had found fault with this mode of leaving the question, he must express his concurrence in the opinion of Mr. Baron Rolfe, that *the excuse of an irresistible impulse coexisting with the full possession of reason, would justify any crime whatever*. It was for them to say, not leaving out of consideration the evidence of the surgeon, which had been given with great good sense, whether the impulse which had urged the prisoner to this crime was one that deprived him of the power to know that he was doing wrong. An attempt to commit suicide was not necessarily a sign of insanity; and the desire to commit suicide appeared in this case to have been suggested by a fact, and not by a delusion. That circumstance, however, must be taken into consideration; so also the absence of an attempt to escape, and the want of sense on the first day while it supervened afterwards. Still it must be borne in mind that no *delusion* had been shewn, nor any symptoms *of weak intellect* at another time.

The jury then retired to consider their verdict. After a short time they returned into court with a verdict of guilty.

Mr. Baron Parke then, in a most impressive manner, passed sentence of death on the prisoner.

Correspondence.

THE IMPORTANCE AND UTILITY OF INDICES TO PERIODICALS.

Sir,—In your number for the 21st ult. in a notice of the index to the British and Foreign Medical Review, we read—"A work consisting of twenty-four volumes,—extending over a period of twelve years,—was obviously in need of a general index; for it could not be expected that any reader would afford time or patience to wade through the indices of twenty-four volumes for the sake of a single reference." Quite true; but if it be difficult to afford "time and patience" sufficient to consult the indices of twenty-four volumes of the Review, how much more difficult must it be to have "time and patience" enough to examine the indices of forty-one volumes of the GAZETTE! You must have forgotten yourself when you penned this sentence: for a more suicidal admission I really never read. It in fact amounts to this: either the former volumes of your journal are not worth referring to, or are quite worthless except as so much waste paper; or they require a general index nearly twice as much as the Review required it, for your volumes are nearly twice the number. The want of general indices—which should appear at regular intervals of some years,—to all voluminous periodicals extending over a long period, render them almost valueless for reference,—and pray *take yourself a lesson from your own words, for the future.* Was not the notice alluded to written by a contributor, who thoughtlessly let out a truth so condemnatory of the very journal for which he wrote, and which slipped into print unknown to you, Mr. Editor? Were you to publish a general index every three or four years, what a boon it would be, and I am sure your subscribers would most cheerfully pay amply for it as a distinct publication from the journal. In its facility of immediate reference on occasions of emergency consists the chief utility of one of the "retrospects" and "abstracts" you so unjustly condemned in December last—I mean "Braithwaite's Retrospect." Here we have a most comprehensive general index to every four volumes; and if the more presuming Ranking, who now takes by far the lead in circulation, do not adopt a similar plan, they are sure yet to exchange places among those who chiefly want such publications,—the busy general practitioners. If the conductors of the weekly periodicals were to condescend to imitate their humble follower in this respect, his vocation would be, in a great measure, gone; but until they do so, such "parasites," as you are pleased to call them, will command extensive patronage, and deservedly too, for every man in active practice must acknowledge their paramount utility.—Excuse this extempore scrawl, and allow me to subscribe myself, sir,

With unfeigned respect,
Your obedient servant,
J. Jones, Surgeon.

Llanfair, Montgomery,
5th August, 1848.

In reference to your article of December, there is an observation relative to the "abstracts," the truth of which forcibly struck me. You say, "The purchasers of these half-yearly summaries are led to believe that they contain, either in the shape of lengthened reports or of copious extracts, all original contributions to medical literature which are of any practical utility." But this is entirely a delusion. Braithwaite, in the preface to his 12th volume, when he abandoned the "retrospective summary," truly says, "such retrospective addresses, to say the least of them, however general and comprehensive they may be, seldom satisfy the reader on any one subject to which they refer. Generally speaking, they are little better than copious indices; they give us a slight taste of the original article, leaving us after all to refer to the book or journal from which it is obtained for further information. The wine may be good, but we are only allowed to wet our lips!" This is characteristically applicable to Ranking's "Reports," so highly lauded, and which undoubtedly evince very great industry; still they give one only a smattering of almost everything, without our really understanding and mastering any one subject. For instance, chemistry may be said to be almost a new science since Ranking's first volume appeared. Let any one (conversant only with the science as it was a few years ago) read, mark, learn, every line which has appeared in that work from that day to this, *and nothing else*, on the subject, and how much wiser will he be? He will have amassed a vast number of facts, which he can neither comprehend nor account for, because he will have no general enlarged views of the principles which have recently been developed. He will not know that the Daltonian theory, the groundwork of the old chemistry, is proved to be erroneous in several fundamental points. I unhesitatingly assert that a few hours' careful study of the admirable article on Chemical Philosophy, in No. II. of the British and Foreign Medico-Chirurg. Review, will teach one more of the science of chemistry than days poring over Ranking's laborious reports. The fact is, he attempts too much, and thus defeats his object; and if we trust to him only (as, to my knowledge, many do who used to take the Gazette, Lancet, or British and Foreign Review, now take only Ranking) to keep our pace with the progress of science, we shall find ourselves miserable sciolists at last.

LOCAL APPLICATION OF CHLOROFORM FOR THE RELIEF OF PAIN.

An aged person, who had been suffering for ten or twelve days under very acute pain from internal suppuration and disorganization of the eye, with pus in the anterior chamber, (her age and circumstances prohibiting the employment of very active measures for subduing inflammatory action) was most effectually relieved of pain by the vapour of chloroform applied directly to the eye by means of the common chimney glass of an Argand lamp. A small piece of rag being moistened with the fluid, it was placed in a saucer over a cup of warm water, and the vapour thus directed solely to the eye; relief was almost immediately experienced, and after a very few applications she had no return of pain, comfortable sleep being also procured by the remedy.

Might not a small glass vessel in shape resembling a retort with an oval mouth, be a convenient apparatus for similar applications?

A RETIRED PRACTITIONER.

ON SCIRRHUS OF THE LIP.

SIR,—May I request a small space in your valuable periodical, to report some short notes of a few cases that have come under my notice of scirrhus of the lips: deeming this a fitting occasion for making these observations, as I perceive in the MEDICAL GAZETTE of June the 23rd, in a lecture delivered by Mr. Bransby Cooper, whilst speaking of cancer of the lips, the following words:—"It is remarkable the disease attacks almost exclusively the lower lip. Sir Astley Cooper states he had seen upwards of two hundred cases, in only one of which the upper lip was the seat of the disease."

I have myself within the last four years had two cases under my treatment, in which the upper lip was the primary seat of the disease, and three in the lower lip: short notes of each case I now append.

I am, sir,
Your obedient servant,
WM. PHILPOT BROOKES,
M.D. M.R.C.S., &c.

Albion House, Cheltenham,
July 21, 1848.

F. S., aged 54, residing in Cheltenham, had suffered for some time from a scirrhous sore, with everted edges, and discharging a most offensive odour in the upper lip: this had been once extirpated, but it reappeared in a few months afterwards. In February last he consulted me: I then found him with the whole of the upper lip involved in a large cancerous sore, giving out so disagreeable an odour, that the room in which he resided was barely to be tolerated: this sore also extended into the cheek on the left side, and up to the border of the eyelid, by its pressure closing the lower eyelid, so that he could not see with the left eye: it had also opened into the ductus stenonis: there was no enlargement of any of the glands. He would not hear of any operative procedure, and the sore was dressed with chloride of zinc and gypsum, but with no other effect than in a great degree removing the disagreeable odour. In a short time the general health gave way, and he removed into the country for change of air, so that I lost sight of him; but I doubt not the case has terminated in death long ere this.

Mrs. Fitzgerald, aged 60, washerwoman, residing in Taylor's Court, has had a cancerous growth of the right side of the upper lip for two years. In March, 1848, she came under my notice: I found her with more than half of the upper lip in an ulcerated state, extending down the cheek to the chin on the right side, saliva constantly dribbling away, the parotid and submaxillary glands enlarged and diseased; the ulcerated surface unhealthy; edges everted, and giving out an offensive cancerous odour; general health in a very bad state, and this gradually becoming worse, she died in a few weeks after my first seeing her.

Jesse Castle, aged 42, a strong healthy-looking man, came under my care with a scirrhous sore of the lower lip and centre of the chin, the size of a five-shilling piece: no enlargement of glands, and general health very good. He attributed the first origin of the disease to an impoverished diet. After three applications of chloride of zinc and gypsum, healthy action was set up in the sore, and it quickly healed. I have been in the habit of seeing this man almost daily since he recovered, now more than four years back, and he continues free from any return of the disease.

W. B., aged 48, residing at Cheltenham, was admitted a patient of mine on the 1st of July, 1848. Has now a sore the size of half a crown in the centre of the lower lip, with everted edges of a scirrhous nature. At the lower part of the sore was a hard, red, tumor, the size of a nut, and very painful to the touch. Two months back this portion of the lip was removed by a surgeon for a cancerous growth: the edges of the wound united well, but the disease again appeared very rapidly after the operation: there is no glandular disease; the patient positively refuses to have the knife again used. This is a very favourable case for the use of the chloride of zinc, which is now being applied, and I doubt not will give him some benefit.

I have seen the chloride of zinc exert a most beneficial effect in cancerous sores, and those in which the malady has taken too great a hold on the constitution, assisting in a great measure to overcome the offensive odour of the disease. It also exerts a good effect in stubborn ulcers, especially with callous, hard, even edges; and will rapidly set up a healthier action when other remedial means have failed; the surface will speedily granulate and heal.

The mode in which I use the remedy is by taking two parts of chloride of zinc and three parts of gypsum, spreading the powder over the surface of the sore, protecting the edges of the healthy skin with vinegar, and applying, in about a quarter of an hour, a soft poultice.

EFFICACY OF THE CHLORIDE OF ZINC IN THE PROCESS OF EMBALMING.

SIR,—Permit me to direct the attention of your readers to a very simple method or embalming bodies, or preserving them for dissection. In March last, Dr. Galland injected through the aorta of an adult subject as much of Sir Wm. Burnett's solution of chloride of zinc as he could without using much force. About a pint was thrown up the rectum, and some poured into the mouth. The body remained exposed to the air, with the thermometer averaging above 70 in the shade, and not the least discolouration or putrefaction had then taken place, the limbs remaining perfectly flexible. Dr. Galland has sent home two subjects thus prepared, which may be seen in the museums of King's College and University College. I need not take up more of your valuable columns by pointing out how useful the knowledge of this fact may be to teachers, students, and the profession generally.

A Surgeon, R.N.

July 1848.

Medical Intelligence.

UNIVERSITY OF LONDON.

FIRST EXAMINATION FOR THE DEGREE OF BACHELOR OF MEDICINE.

Monday, August 7.—Morning, 10 to 1.

Anatomy and Physiology.

Examiners,—Mr. Kiernan and Prof. Sharpey.

1. Give an account of the dorsal region of the vertebral column, mentioning the characters by which the vertebræ of that region differ from those of the neck and loins, as well as the marks by which certain dorsal vertebræ may be distinguished from the rest. Describe also the several articulations and ligaments by which the dorsal vertebræ are connected with each other and with the ribs.

2. State the dissection required to expose the Peroneus Longus in its whole course from its origin to its insertion, mentioning its relations to other parts. In the dissection of the sole of the foot commence at the skin, and mention in the order in which they are seen, all the parts which intervene between it and the tendon of the muscle, and their relations to each other; but the attachments of fasciæ, muscles and ligaments, and the course of vessels and nerves, are not to be given.

3. Commencing at the integuments, describe the parts brought into view in exposing the spinal accessory nerve from the point where it escapes from beneath the digastric muscle to its termination.

4. Describe the construction and explain the mechanism of the different valves placed between the auricles and ventricles of the heart, at the orifices of the aorta and pulmonary artery, and in the veins. What veins are known to be destitute of valves?

5. Give a description of the Cæcum and of the Ilio-colic valve, and state the differences in point of structure between the great and small intestines.

Afternoon, 3 to 6.

Anatomy and Physiology.

Examiners, Mr. Kiernan and Professor Sharpey.

1. The malar, superior maxillary, nasal and inferior turbinated bones being removed on one side, describe the remaining walls of the orbit, and those parts of the skull brought into view by the removal of the bones, as far back as the posterior margin of the external pterygoid plate. Commence at the superciliary ridge, and describe the surfaces, sutures, fissures and foramina, in the order in which they are met.

2. Give the dissection required to display the supinator and extensor muscles on the fore-arm and back of the hand, describing, in the order in which they would be exposed, the muscles, fasciæ, and ligaments, as well as the vessels and nerves met with in the dissection.

3. Commencing at the integuments on the forepart of the thigh, and carrying the dissection as far back as the anterior surface of the adductor magnus,—describe the parts brought into view in dissecting the crural artery and its branches in its course from Poupart's ligament to the point where it passes into the ham.

4. The walls of the abdomen being removed, describe the lesser omentum and Glisson's capsule, their attachments and contents; the position and boundaries of the foramen of Winslow, and the position of the duodenum and pancreas, and their relations to other parts.

5. Describe the structure of a middle-sized artery, and state what are its physical and vital properties.

Tuesday, August 8.—Morning, 10 to 1.

Chemistry.

Examiner, Professor Brande.

1. What are the substances usually present in spring and river water; how are they qualitatively and quantitatively determined; and under what circumstances is sulphuretted hydrogen generated in such waters?

2. What is the meaning of the term *dew-point?* What is the usual composition of the atmosphere, and how are the proportions of its several components ascertained?

3. Define and illustrate the meaning of the terms *sensible* and *latent* heat. Describe the principles upon which thermometers are graduated, and the mutual rela-

tions of the Centigrade and Fahrenheit's scale.

4. Describe the phenomena of vegetation in reference to the substances which form the food of plants, the sources whence those substances are derived, and the influence of the soil and of manures.

5. What are the leading differences in the composition of the urine of graminivorous and of carnivorous animals? Of what are urinary calculi composed; how are they analysed; and what are the chemical principles upon which their medical treatment is founded?

6. You are requested to name the salt held in aqueous solution in the bottle marked A, and in that marked B, and to give the symbols of the two salts in their crystallized state. They are inorganic salts, and the tests adequate for their recognition are on the table.

Afternoon, 3 to 6.

Materia Medica and Pharmacy.

Examiner, Dr. Pereira.

1. Give a sketch of the pharmacological history of nitric acid, to include the following subjects:—
   - α. The mode of preparing it, and the changes which attend the process.
   - β. The sp. gr. of the *acidum nitricum*, Ph. Lond., and of commercial nitric acid.
   - γ. The composition and characteristics of the liquid acid; and the difference between colourless and fuming nitric acid.
   - δ. The ordinary impurities of commercial nitric acid, and the methods of recognizing them.
   - ε. The effects (including the chemical action of the acid on the tissues) and medicinal uses of the acid.
   - ζ. The doses both of the pharmacopœial and of commercial nitric acid, and the precautions to be adopted in using this acid.
   - η. The appropriate treatment in poisoning by nitric acid.

2. State the evidence in support of the opinion that—
   - α. Medicines and poisons properly so called operate by absorption.
   - β. Some irritant and corrosive agents operate physically on the body and affect remote parts through the agency of the nervous system or on the principle of shock.

3. Give a sketch of the pharmacological history of cathartics, to include
   - α. A natural-history arrangement of officinal cathartics.
   - β. The general effects of cathartics.
   - γ. A physiological arrangement of officinal cathartics.
   - δ. The general uses to which the different orders of cathartics are respectively applicable.

4. Give a sketch of the pharmacological history of *Juniperus Sabina*, to include
   - α. Its botanical description.
   - β. Its chemical history.
   - γ. Its effects and medicinal uses.
   - δ. The treatment of poisoning by it.

Wednesday, August 9.—Morning, 10 to 12.

Botany.

Examiner—Rev. Prof. Henslow.

1. Define the terms Circinnatus, Legumen, Polyadelphus, Septicidalis, Endogenus, Pedatus.

2. Give such diagnoses of the following orders as may be sufficient to include our British genera:—Papaveraceæ, Rosaceæ, Orobancheæ, Amaryllideæ.

3. Give such diagnoses of the following genera as will include our British species—describing, so far as may seem to you important, the peculiarities of their several floral whorls, fruit, and seed:—Delphinium, Cichorium, Quercus, Cypripedium.

DEATHS IN LONDON DURING THE QUARTERS ENDING JUNE, 1847-8.

Causes of Death.	Quarters ending June	
	1847.	1848.
All Causes . . .	12361	12945
Specified Causes . .	12334	12877
Violence, Privation, Cold, and Intemperance . .	395	425
Small Pox . . .	181	381
Measles	277	306
Scarlatina . . .	174	816
Hooping Cough . .	392	449
Croup	50	80
Thrush	35	49
Diarrhœa . . .	202	239
Dysentery . . .	39	41
Cholera	4	17
Typhus	568	882
Phthisis or Consumption .	1733	1699
Hydrocephalus . .	407	405
Apoplexy . . .	317	256
Convulsions . . .	526	499
Pericarditis . . .	34	21
Aneurism . . .	15	20
Disease of Heart . .	466	324
Bronchitis . . .	710	565
Pleurisy . . .	67	56
Pneumonia . . .	748	732
Asthma . . .	201	136
Teething . . .	120	120
Childbirth . . .	102	63

THE PROGRESS OF CHOLERA IN EUROPE.

The *Kolner Zeitung* states, in their "latest intelligence," that the cholera has broken out at Czernowitz (in the south-east of Gallicia) and in Sweden. It is asserted that the plague is not only raging at

Stockholm, but that it has penetrated into the interior of the country, into Finland and Lapland, and that it is of a most malignant character.

The *Berliner Zeitungshalle* (a paper whose statements are not much to be relied on) mentions a case of Asiatic Cholera which occurred at the Charité at Berlin. The patient, it is asserted, died after the illness had with fearful rapidity passed through all its stages.

It is stated in letters from Stettin, that cholera, notwithstanding the strict regulations enforced, had broken out in Central Sweden, and that its effects in Finland had proved extremely disastrous. Business, which had already suffered severely, would, it was anticipated, be further affected by the quarantine laws. Money continued scarce, and the prices of produce were falling. Only one cheering feature is mentioned in these accounts, viz., the prospects of an abundant harvest.

THE CHOLERA IN EGYPT.

Letters from Alexandria, of the 22d July, announce that the cholera had manifested itself with considerable intensity at Cairo, and that the epidemic had also reached Tantah, a town on the Damietta branch of the Nile.

THE WOUNDED IN PARIS.

The number of wounded of June remaining in the civil hospitals of Paris on the 4th was 543. Ten had died since the publication of the last returns.

KING'S COLLEGE HOSPITAL. MEDICAL APPOINTMENT.

The vacancy occasioned in the surgical staff of this institution by the resignation of Mr. John Simon, consequent on his acceptance of the Chair of Pathology at St. Thomas's Hospital has been filled up by the appointment of Mr. Henry Lee (the former house surgeon) as assistant-surgeon; and Dr. Brinton has been appointed Demonstrator in the anatomical theatre of the College.

SURREY DISPENSARY.

Mr. John Cooper Forster has been appointed Surgeon to this Institution.

BRISTOL GENERAL HOSPITAL.

Dr. G. D. Fripp was unanimously elected, on Thursday last, a physician of this institution, in the room of Dr. Nicholson, resigned.

ELECTION OF FELLOWS AT THE COLLEGE OF SURGEONS.

The following members of the College were admitted "*Fellows*" on the 10th instant:—W. J. Anderson, Grove Place, Brompton—W. Cadge, Hoveton, Norfolk — W. W. James, Exeter — C. H. Moore, Mortimer Street — J. Robertson, Hitchin, Herts—and H. H. Waltin, Bernard Street.

ROYAL COLLEGE OF SURGEONS.

Gentlemen admitted members on the 4th inst.:—C. Underhile — E. Horner — J. Hendley—E. Andrews—R. O. Clark—J. King—and H. Bowe.

Admitted on the 7th inst.:—C. H. Holman—C. B. Mitchell—H. T. Whittell—S. W. Devenish—J. Phillips—W. H. Slade—and G. R. Cubitt.

OBITUARY.

On the 28th of June, at Camberwell, John Hopkins Radford, District Surgeon, H. P. Medical Staff, aged 84.

On the 25th July, at Speenhamland, near Newbury, John Mort Bunny, Esq., M.D., formerly of the 76th Regiment, aged 64.

On the 26th July, at Fiddington House, near Devizes, John Willett, Esq., M.D., aged 29.

On the 3d of August, at Woodford, Essex, after a short illness, Thomas Morgan, Esq., Surgeon, in the 71st year of his age.

On the 4th of August, at Great Malvern, Alexander Nasmyth, Esq., F.R.C.S., late of London.

Selections from Journals.

ON THE ACID AND ALKALINE REACTION OF THE FLUIDS OF THE HUMAN BODY IN HEALTH AND DISEASE. BY M. ANDRAL.

All the animal fluids, in their natural condition, present a certain degree of acidity or alkalinity; although, from acidental circumstances, they are occasionally rendered neutral. Thus, the introduction of a large quantity of water into the stomach may at once remove the natural acidity of the urine; also, when the skin is covered with a profuse perspiration, the naturally acid reaction of the perspiratory fluid may, for the time, cease to manifest itself. But it is evident that, in these cases, the acidity of the fluids disappears only because of the extreme dilution of the acid principle by the abundance of its watery vehicle. In the healthy condition, no spontaneous change occurs in the system by which a fluid, naturally acid, is rendered alkaline, or *vice versâ*. If such change in reaction is occasionally observed, it depends, like the above-mentioned conversion into the neutral state, upon influences external to the system, and is produced, either by the food or drink; or upon the decomposition of the liquids exposed to the air, or while contained within their reservoirs. It may, therefore, be established as a general principle, that, in the healthy human subject, each of the several fluids of the body, whatever be the varieties of its physiological properties, invariably maintains the same reaction, whether this be cid or alkaline. At the same time, however, any of these fluids may become accidentally neutral if a large quantity of water is taken into the system, or if it is secreted in very unusual abundance. This is especially the case in regard to the cutaneous secretion; a fact which would seem to show that where this fluid is poured forth in large quantities it contains proportionally more watery than solid principles, otherwise the mere abundance of the secretion would not cause the natural acidity of the fluid to disappear.

This constant maintenance of the natural reaction of animal fluids being observed in health, it becomes very desirable to determine whether a similar condition exists also in disease. It is generally supposed that certain diseases have the effect of so modifying the animal fluids as to render the acid ones alkaline, and the naturally alkaline ones acid; and this supposition has led to many theories as to the cause, nature, and mode of attack of such diseases. To the investigation of this subject, the attention of M. Andral has been especially directed. Of all the fluids of the body, the serum of the blood always appears to present the alkaline reaction in the most marked degree; and M. Andral finds that the intensity of this reaction does not seem to present any sensible difference, whatever may be the nature and duration of a disease. It has been said, that in cases in which the blood becomes very deficient in fibrine, the proportion of its alkaline principles increases, but this statement is not sufficiently supported by facts. Equally unsupported, also, is the statement that the alkalinity of the blood is diminished in diabetes. It has been said, also, that the blood sometimes becomes neutral, or even acid, in disease; but M. Andral doubts the existence of such changes, believing that the blood, under all circumstances, is invariably alkaline.

In health, the fluids formed from the blood are rarely found neutral; most commonly they are alkaline, like the blood itself, or more or less strongly acid. In examining the reaction of the different secretions, it must, however, be remembered, that upon most of the surfaces of the body, both external and internal, secretions of different reaction are poured forth; hence care must be taken not to ascribe the effect of an accidental excess of one secretion to a change in the reaction of another. Thus, the skin secretes two principles of different reaction: the fluid of perspiration, which is acid; and the matter discharged by the sebaceous glands, which is alkaline. Under all conditions, both of health and disease, the fluid of perspiration is acid; sometimes, from the cause already mentioned, it is neutral, but never alkaline. In typhoid fevers, however severe, its acidity invariably persists; and in diabetes it does not disappear, as has been supposed. In the latter disease the perspiration, though usually small in amount, is sometimes, especially in advanced stages, very profuse, even when no pulmonary tubercles have manifested themselves. Although the true perspiratory secretion is itself invariably acid, yet the skin does not everywhere present an acid reaction; in some parts, indeed, even when covered by perspiration, it is manifestly alkaline. The parts in which this occurs are those provided with numerous sebaceous glands, as in the neighbourhood of the nose in some persons, and most commonly the hollow of the axilla, the eyebrows, and many other parts covered with hair. The alkaline reaction in such cases is evidently due, not to any alteration of the perspiratory fluid itself, but to the fatty matter secreted by the sebaceous follicles. It is not a constant condition, being much more manifest in some persons than in others; and its existence or absence appears to be quite independent of all circumstances of health and disease.

The acidity of the perspiratory fluid proves that it is not simply the liquid part of the blood which exudes from the blood-vessels charged with more or less of the elements of serum: for if such were its nature it ought to be alkaline like the serum, and like those fluids which appear to be directly derived from the serum. Thus the fluid poured forth from the skin at a part irritated by a burn, or by the application of a blister, is always strongly alkaline. So also are the liquid contents of the vesicles of herpes and eczema, and of the bullæ of pemphigus. In all such cases in which the exhalation of the fluid has been preceded by a greater or less degree of congestion of the part, it may be assumed that the fluid poured forth consists of the serum of the blood, modified only in regard to the relative proportions of its elements. In that singular form of vesicular eruption which is not preceded by congestion of the skin—viz. sudamina—the contents of the vesicles, unlike those of all other vesicles, are acid, and, moreover, contain no albumen—a substance invariably found in the fluid of other vesicles and bullæ. In these two points the fluid of sudamina resembles the perspiratory fluid: and the analogy between them is rendered more complete by the frequent occurrence of this form of eruption in diseases attended by profuse perspiration. Sudamina are not, however, confined to cases in which the perspiration is abundant, for they frequently occur largely over the trunk, neck, and extremities, in cases of fever unattended by any manifest perspiration.

On mucous membranes, still more than on the skin, fluids of various kinds, and possessed of different reactions, are poured forth: hence the difficulty of determining with certainty the reaction peculiar to each, and hence the errors which have so frequently arisen on the subject. Over their whole extent, mucous membranes, in the condition of health, furnish, like the skin, an acid principle. This principle is contained in the transparent fluid, destitute of corpuscles, which these membranes, in health, separate from the blood. But when, as continually occurs, this homogeneous fluid is replaced by another fluid, opaque, and provided with corpuscles, the acid reaction disappears, and is replaced by well-marked alkalinity. Thus the opaque mucus secreted by mucous membranes which are the seat of acute or chronic inflammatory affections is invariably alkaline. Few liquids, indeed, are so strongly alkaline as the puriform mucus discharged from the nasal fossæ in cases of coryza. The matter expectorated in bronchitis often presents both an acid and alkaline reaction; the clear transparent parts being acid, while the opaque portions are alkaline. The mucous membrane of the cavity of the mouth, comprising that which covers both surfaces of the tongue, does not always present the same reaction. Examined in the morning, before any food has been taken, it presents, in the great majority of cases, an acid reaction; but in the course of the day this reaction changes, and becomes alkaline. The acidity belongs to the matter furnished by the mucous membrane itself, the alkalinity to the saliva. It is therefore wrong to attribute the acidity of the mouth to a morbid state of the stomach; for it is not a pathological state, but occurs in the healthiest persons, and depends upon the proper secretion of the mucous membrane which happens, at the time of examination, not to be neutralised by saliva. The acidity natural to the healthy secretion of the mouth is retained under all circumstances of disease. In those cases in which the cavity of the mouth is found neutral or alkaline, the change is due either to a cessation of the secretion, or to its neutralisation by saliva, or some other fluid not derived from the buccal mucous membrane.

When a piece of litmus paper is applied to the mucous membrane of the stomach after death, it usually becomes manifestly reddened; occasionally it is unchanged, but under no circumstances does the membrane exhibit an alkaline reaction. Its acidity is manifest, whether there be present any remains of food or not; whether the organ has been empty for a considerable time, or has only just ceased digesting, and from whatever disease the individual has died. It is difficult to reconcile this fact with the statements of recent physiologists, who say that the mucous membrane of the stomach only becomes acid when it is stimulated, as by the presence of food, while at other times it is neutral, or even alkaline. The mucous surface of the duodenum, and of the upper portion of the small intestine, is usually found acid after death; but since from the pancreas and liver secretions of an alkaline character are poured into this part of the intestinal canal, both the duodenum and the parts of the small intestine below it are often found alkaline. The large intestine always presents a very decided alkaline reaction [the cæcum ?]

With regard to the reaction of the secretions of the various glands, the *tears* are invariably alkaline. The *saliva* also is always alkaline. It has been said to become acid in some diseases, *e.g.* in diabetes, but this is probably never the case. The cause of the occasional acidity of the mouth has been already explained. That such acidity is not in any case due to an acid secretion of saliva may be at once proved by exciting a flow of saliva,—as may be done by chewing some stimulating substance—and testing its reaction, which will be invariably found alkaline. In health, *urine* which has not remained too long in the bladder, and is examined shortly after it is voided, is invariably acid. The reason of its being occasionally found neutral has been already explained. Accidental circumstances occasionally render this secretion for a time alkaline—as the use of alkaline salts, and the long-continued employment of an exclusively vegetable diet; but on the removal of these causes the acidity is speedily restored. Also in the various diseases in which the composition of the urine is subject to be changed, the acidity of this fluid at its secretion is never lost. It has been said to be alkaline in typhus, but such is not the case. It has also been said, very commonly, that affections of the spinal cord have the power of so modifying the secretion of the kidneys as to cause the urine to become alkaline. On this point, however, considerable confusion seems to exist. So long as the bladder is not diseased, the urine of a person affected with spinal mischief possesses its natural acidity when it reaches this viscus, and retains it while it remains in it; but if the mucous membrane of the bladder is the seat of a purulent secretion, then the urine in contact with it becomes alkaline. And this latter condition often occurs, because of the frequency with which the bladder is affected in the more or less advanced stages of disease of the spinal cord. A morbid state of the bladder seems to be the only condition by which the urine is made alkaline. But even in such cases, this fluid, as it is secreted by the kidneys, possesses its natural acid reaction, losing it only when it arrives at the bladder. The change in reaction is indeed purely a chemical act: the urine placed in contact with morbid products poured from the mucous surface of the bladder, is decomposed, and becomes ammoniacal. If the morbid product is purulent, an additional reason for the alkalinity of the urine is furnished,—for pus, from whatever source it is derived, is invariably alkaline.

It follows, therefore, from the above observations, that the different fluids of the economy present, in regard to their reaction, whether it be acid or alkaline, a very constant condition, which is not altered even by disease. So that it may be held as a law, applicable both in health and disease, that an animal fluid, when secreted, invariably possesses the same chemical reaction.—*Comptes Rendus*, 19 Juin, 1848.

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BIRTHS & DEATHS IN THE METROPOLIS

During the week ending Saturday, Aug. 5.

BIRTHS.		DEATHS.		*Av. of 5 Sum.*	
Males....	658	Males....	518	Males....	495
Females..	642	Females..	520	Females..	477
	1300		1038		972

CAUSES OF DEATH.		Av. of 5 Sum.
ALL CAUSES	1038	972
SPECIFIED CAUSES	1038	968
1. *Zymotic* (or Epidemic, Endemic, Contagious) *Diseases*	434	257
Sporadic Diseases, viz.—		
2. Dropsy, Cancer, &c. of uncertain seat	36	45
3. Brain, Spinal Marrow, Nerves, and Senses	101	120
4. Lungs and other Organs of Respiration	60	80
5. Heart and Bloodvessels	25	28
6. Stomach, Liver, and other Organs of Digestion	70	79
7. Diseases of the Kidneys, &c.	17	8
8. Childbirth, Diseases of the Uterus, &c.	10	10
9. Rhematism, Diseases of the Bones, Joints, &c.	7	7
10. Skin, Cellular Tissue, &c.	1	1
11. Old Age	24	50
12. Violence, Privation, Cold, and Intemperance	17	8

The following is a selection of the numbers of Deaths from the most important special causes:

Small-pox	32	Paralysis	14
Measles	9	Convulsion	36
Scarlatina	97	Bronchitis	19
Hooping-cough	24	Pneumonia	23
Diarrhœa	141	Phthisis	114
Cholera	21	Dis. of Lungs, &c.	8
Typhus	55	Teething	10
Dropsy	15	Dis. Stomach, &c.	5
Sudden deaths	3	Dis. of Liver, &c.	11
Hydrocephalus	28	Childbirth	6
Apoplexy	21	Dis. of Uterus, &c.	4

REMARKS.—The total number of deaths was only 66 above the weekly summer average. Zymotic diseases are far more fatal than the average, but other diseases have assumed a less fatal character. The Zymotic deaths were 434, to a weekly average of 257; but it ought to be stated, that out of the 434 deaths, no less than 342 were among *infants*.

METEOROLOGICAL SUMMARY.

Mean Height of Barometer				29·54
" " Thermometer[a]				60°
Self-registering do.[b]	max.	91·8	min.	42°
" in the Thames water	—	66·2	—	63·5

[a] From 12 observations daily. [b] Sun.

RAIN, in inches, 1·34: sum of the daily observations taken at 9 o'clock.

Meteorological.—The mean temperature of the week was 1·6° below the mean of the month.

BOOKS & PERIODICALS RECEIVED
DURING THE WEEK.

Eighth Annual Report of the Registrar-General.

Scriptural Authority for the Mitigation of the Pains of Labour by Chloroform. By Protheroe Smith, M.D.

Dublin Quarterly Journal of Medical Science, August 1848.

Pharmaceutical Journal, August.

Arguments against the indiscriminate Use of Chloroform in Midwifery, by S. W. J. Merriman, M.D.

*** This and Mr. Gream's pamphlet on the same subject will be shortly noticed.

Should the Cholera come,—What ought to be done? By John Challice, Surgeon.

Oratio Anniversaria Harveiana, MDCCCXLVIII.

Edinburgh Monthly Journal of the Medical Sciences, August.

London and Edinburgh Philosophical Magazine, August.

Journal de Pharmacie et de Chimie. Juillet.

Casper's Wochenschrift, Nos. 28, 29. 8 and 15 July.

Comptes Rendus, Nos. 3 and 4. 17 and 24 July.

British Record of Obstetric Medicine, No. 15, August.

Journal of Public Health, August.

British American Journal of Medical and Physical Science, July 1848.

The Water-Cure Journal, August.

NOTICES TO CORRESPONDENTS.

Dr. Andrew Clark.—We shall have great pleasure in inserting the series of papers. That which has been already forwarded, will appear in the following number. Will our correspondent be so good as to send the drawings as early as may be convenient?

If Mr. J. Jakins will transmit to us a description of the Duplex Monster it shall be inserted.

A Subscriber of Five Years.—We know of no other appointments than those attached to our embassies at foreign courts; and the selection is generally made by the Ambassador. So far as we know there is no book published in reference to such matters.

Mr. White's paper will be inserted next week. A proof shall be sent to Mr. Kelly.

Dr. W. Reid.—At present there is no vacancy. We will, however, retain our correspondent's address.

Mr. W. Bowman.—We shall be glad to publish the Lectures. Proofs shall be forwarded.

Mr. A. J. Simkins.—The authentic report of the case has come to hand, and will be inserted next week if possible. We have not received a copy of the Staffordshire Advertiser.

RECEIVED.—Mr. Girdwood.—Mr. Swan.

Lectures.

COURSE OF SURGERY,

Delivered in the years 1846 *and* 1847,

By Bransby B. Cooper, F.R.S.
Surgeon, and Lecturer on Surgery at Guy's Hospital.

Lecture XXXV.

SURGERY OF REGIONS.—CONTINUED.

Wounds of the viscera, and of the walls of the abdomen — Symptoms—Penetrating wounds in the epigastrium — their dangerous character —Wounds of umbilical and lumbar regions—Wounds in hypogastric regions — iliac regions — Danger of wounds of the intestines in proportion to their proximity to the pylorus—Symptoms of wounds of intestines—Treatment —Mode of reparation — Complete division of intestine—Treatment—by suture—by formation of artificial anus—Penetrating wounds of abdominal viscera by musket ball—not always fatal.

Laceration of viscera without wound of parietes—Symptoms — Treatment—Collapse equally a symptom of lesion of solid and hollow viscera—Cases —Distinctive symptoms in rupture of large and small intestine — Rupture of gall-bladder — Symptoms — Rupture of the stomach—treatment unavailing—Rupture of bladder—Danger depending on liability to peritonitis.

INJURIES TO ABDOMEN (*continued*).

When the viscera, as well as the walls of the abdomen, are wounded, the nature of the injury is generally indicated by the peculiar character of the effusion which follows; but sometimes it may happen, either from the oblique direction of the wound, from its small size, or from the emptiness of the viscus itself, that no effusion occurs. In that case the diagnosis must be formed upon the general symptoms that present themselves; and these are indeed usually sufficiently marked to enable the surgeon to form at once a tolerably correct judgment.

There are no circumstances in which the advantage of the topographical division of a region is more evident than in the case of penetrating wounds of the abdomen and its contents; in such accidents the diagnosis is greatly facilitated by the mapping out of the surface; and it is easy to determine upon the organ which has been injured, not only from the effusion which makes its escape, but also from the anatomical knowledge of the situation of each particular organ, which would afford the requisite ground for the judgment, even should effusion be completely absent.

Penetrating wounds into the epigastrium are particularly dangerous, owing to the circumstance of the liver, gall-bladder, stomach, duodenum, and, indeed, all the most important of the chylo-poietic viscera, being situate in this region; and wounds here, if they do not lead to the extravasation of blood, bile, or chyle, would at any rate produce extreme collapse, which would be indicative of injury to some of the organs above named, and the prognosis would be extremely unfavourable, from the importance of the function they are destined to perform. In the umbilical and lumbar regions, both the large and small intestines, as well as the kidneys, are liable to be wounded; injury to the latter is not, however, indicated immediately unless the cause be a penetrating wound from behind; in that case a urinous discharge might take place. Wounds in the centre of the hypogastrium may injure the bladder; and if this organ happened to be in a state of distension at the time, the nature of the injury would be indicated by a discharge of urine. In wounds in the iliac region, the iliac vessels are endangered; if the wound occur on the right side, the caput coli, if on the left, the sigmoid flexure of the colon, may be the seat of injury. In a general sense, wounds of the intestines must be considered as dangerous in proportion to their proximity to the pylorus; for even if the patient should escape effusion of the contents of the wounded intestine, and fatal peritonitis, still, with the formation of an artificial anus, as the contents of the small intestines, especially those of the duodenum and jejunum, are evacuated through the artificial opening, inanition would be a certain result; while, if the discharge takes place from the large intestine, the contents of which are almost entirely excrementitious, there would be but little loss of nutrition.

When an intestine is wounded without protrusion, the character of the injury is indicated by blood passing with the stools; or, if it be a small intestine injured, a further symptom will be the vomiting of blood, and the escape of gas, and sometimes chylous matter. Under such circumstances, the patient should be kept in a state of perfect quietude, and as collapse is almost inseparable from such an accident, stimuli may be required to restore reaction; but total abstinence from food must be strictly observed, to maintain that quiescent state of the intestine necessary to its reparation. Constipation may, indeed, be permitted to continue for several

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days, and appears to form part of the means adopted by nature in the restoration of the part to its normal condition.

When the wounded intestine protrudes, its contents may be perceived issuing from the wound, although the opening itself appears to be closed by the protrusion of the internal mucous membrane. The size of this opening, and its direction, as to whether it be longitudinal or transverse, must now regulate the treatment to be adopted. If the wound be very small, its edges may be pinched up by a pair of forceps, and a thin silk tied round so as to include the whole of the wound; the intestine is then to be returned into the cavity of the abdomen, but must be kept as close as possible to the external wound. The ligature produces a sloughing of all the included tissues, and adhesive inflammation of the peritoneum being set up, an external wall of plastic matter is formed around the dead part, which ulcerates off into the intestine, and is carried away with the fæces. Sir Astley Cooper successfully employed this method of treatment in one or two cases in which the intestine had been inadvertently wounded in the operation for strangulated hernia.

When the opening in the bowel is large, different kinds of stitches are used to keep the edges of the wound in apposition. The uninterrupted suture, however, or glover's stitch, is, I believe, the best, but the finest procurable needle and silk must be employed; and, after the bowel has been returned into its natural cavity, the same precaution as I have already mentioned to keep it in proximity to the external wound, should be adopted. When the intestine has been completely divided by a transverse wound, various plans have been recommended for re-establishing its continuity. For this purpose, some animal substance of a cylindrical form, such as the trachea of a sheep, has been introduced. This serves as a sort of mould, and enables the surgeon to keep the edges of the severed bowel in juxtaposition during the application of the suture, the foreign substance easily passing away afterwards with the stools. Some have recommended that the upper extremity of the intestine should be passed into the lower, and that a ligature be then applied around the whole. This produces contact of the peritoneal coat of the intestine above and below the ligature, and, as adhesive inflammation is set up, an effusion of plastic matter soon covers the ligature, and re-establishes the continuity of the external part of the canal; the ligature itself, and the constricted portion, ultimately sloughing off internally, and being conveyed away with the excretions. It has been objected to this operation, that, in bringing the severed ends of the intestine together, a serous is presented to a mucous surface, and that these two structures are ill fitted for union; but it is not intended in this operation that they shall unite: the union is caused by the effusion of the plastic matter from the external surfaces above and below the ligature, and from serous to serous membrane, the whole of the intestine included in the ligature being destroyed and sloughing away. M. Jobert has proposed, as an improvement in the above operation, to invert the inferior extremity before the superior is introduced. In that case, two serous membranes are brought in contact, and the union may take place at once between them; but, under these circumstances, the invaginated portion would not be included in a ligature, but returned in position by suture.

After all, however, from the result of the experiments, it remains questionable whether, in complete division of an intestine by a transverse wound, it is not better to establish an artificial anus and leave nature to her own efforts for the ultimate restoration of the patient; and this does not indeed appear to be so difficult a process as may be supposed, particularly if nature be judiciously assisted by the art of the surgeon.

Almost immediately after the divided intestine has been replaced in the cavity of the abdomen, an adhesive inflammation shuts out the open extremities of the intestine from the peritoneal cavity, so that after a few hours have elapsed the stitch employed to secure the wounded intestine near the external wound in the abdomen may be removed, and as soon as the feculent matter passes partly through the latter the patient may be considered safe, as far as refers to the danger of extravasation of the fæces into the abdomen. But as the formation of an artificial anus renders the patient loathsome to himself, and unfitted for a social state, subsequent means must be adopted to re-establish the integrity of the intestinal canal.

With this view, one of the first steps is to diminish as much as possible a tendency which the upper portion of the bowel has to prolapsus or eversion of its mucous membrane; and this object may be attained by keeping the fæces in a semi-fluid state, and by maintaining slight pressure upon the extremity of the protruded part. The lower portion of the intestine is liable to contract at its extremity, so that the ready passage of the contents of the upper portion is prevented from passing into the lower; this may be in some measure obviated by the use of enemata, which stimulate the natural action of the bowel and prevent it from falling into the abnormal condition always produced by disuse. The strictest attention to cleanliness of the external wound should constantly be observed, otherwise the presence of the feculent matter will interfere very materially with the progress of the healing process. As the wound goes on uniting it gradually contracts into a narrow fistula: this contraction is still further promoted by gentle pressure; and after a while, as the fæces meet with some resistance in the direction of the wound, they acquire a tendency to pass on through the natural passage,—a change which is first indicated by the escape of flatus and mucous per anum; upon which enemata should be freely employed to re-establish the natural function of the rectum and anus.

By such treatment a recent artificial anus may very generally be cured, but if neglected the lower part becomes so much retracted, and at the same time contracted, as to render the cure almost impossible. Dupuytren has, however, proposed the removal of the obstruction termed the "eperon" by means of a pair of forceps made to include it,—one blade of the forceps being inserted into the upper, the other into the lower opening of the intestine; and being closed with sufficient force to produce sloughing of the included valvular portion, after which a free communication between the two parts of the intestine will be re-established. The same attention must be paid to the external wound as under the circumstances I have before described.

In gun-shot wounds, where the ball has penetrated the parietes of the abdomen and wounded a viscus, nature has sometimes effected the reparation of the part—the ball passing away with the fæces. A musket-ball has also been known to penetrate and lodge in the urinary bladder, from which it has afterwards been removed encrusted with calcareous matter, the patient ultimately recovering.

Mr. Travers has written an excellent work, detailing the results of different modes of treatment of wounds of the intestines in the lower animals; and I cannot do better, gentlemen, than to strongly recommend it to your perusal.

Fifthly.—Laceration or rupture of the viscera of the abdomen may occur without lesion of the external walls, and, indeed, without the abdomen itself receiving any blow: in a fall from a height, for instance, the concussion alone may be sufficient to cause rupture of a viscus, particularly of the liver, which, from its great weight and peculiar consistence, is especially liable to be rent from such a cause. The spleen and kidneys are liable to similar lesions, and when distended, the intestines and urinary bladder may also give way without any external wound. In all these cases collapse forms the principal symptom; and the danger may be considered as proportionate to the extent and duration of the prostration of the patient. In the treatment of these accidents the first object is to place the patient in a warm bed, to assist in producing reaction; and if that should not be sufficient, bottles of hot water must be applied to the soles of the feet; and if necessary, internal stimuli administered. Hot fomentations, or a thinly-spread poultice, should be applied over the whole extent of the abdomen; and if, when reaction is produced, pain, accelerated pulse, and elevation of the temperature of the body, indicate inflammation, blood must be taken, either from the arm, or by means of leeches from the abdomen. Small doses of calomel and opium may be ordered, taking care that the opium is sufficient in quantity to prevent the purgative effect of the calomel: I usually prescribe a grain of each every six hours. You should remark, gentlemen, that in peritonitis the pulse is always small; and it is its hardness and incompressibility which constitute its specific character: it being only after bleeding that it becomes softer and fuller.

Collapse is equally attendant upon the rupture of the solid and hollow viscera, and it is therefore difficult in such cases to form, from this symptom, your diagnosis as to the particular organ that has sustained injury: the judgment may, however, be guided in some measure by noticing the precise point at which the pain is chiefly felt, and by the locality in which the injury has been inflicted. When it is supposed that the liver or spleen are the seat of the mischief, we must not be too eager to restore the patient from the state of collapse, as that is the most favourable condition for checking the hæmorrhage inseparable from the lesion of these organs; and as the intestines might have been ruptured at the same time, the patient should as far as possible abstain from food for a few days, in order to preserve the alimentary canal in a quiescent state,—for in all these cases the greatest danger arises from extravasation of blood, or the effusion of the contents of the bowels into the abdominal cavity, and producing peritonitis.

The following cases will serve to illustrate the principles which should regulate the treatment in such accidents as I have already described:—

T—— H——, æt. 21, was admitted into the accident ward in October, in consequence of an injury he sustained from a loaded waggon passing over his loins. The person who accompanied him stated that he spat blood on his way to the hospital. When admitted he was in a state of extreme collapse; his pulse was small, weak and labouring; breathing frequent and difficult; countenance pallid and expressive of great anxiety; and the surface of the body quite cold. He still spat at intervals mucus tinged with blood; and complained of constant pain throughout the whole epigastric region. No fracture of bone could be detected.

He was put to bed, and bottles of hot water were applied to the feet, and fomentations to the abdomen. At 8 P. M. his pulse was 100, small, feeble, and fluttering: as he had not passed his urine since his admission into the hospital, the catheter was used, and six ounces of water tinged with blood drawn off: his bowels were also evacuated during the evening, and he passed a grumous stool, but no clear blood; he was extremely restless, and unable to remain for a minute together in the same position, although at the same time motion greatly increased the pain. At 11 P.M.—pulse still 100, but altered in character, being now contracted and wiry, indicating loss of blood. He also complained of a sensation of fulness and heat on the left side of the abdomen. The next morning all the symptoms were aggravated; but he lingered until evening, when he died.

Upon examination of the body, a pound of blood was found in the abdomen. This at first appeared to be the result of laceration of the left spermatic vein; but upon further examination it was found to have proceeded from the spleen, which was ruptured, and, indeed, a portion was torn from its upper and posterior surface. The diaphragm was ruptured a little above the œsophegeal opening; and there was an effusion of blood between the liver and peritoneum, the former being lacerated; the kidneys were also separated from their peritoneal covering by an effusion of blood, but as there was no lesion of these organs the blood had probably reached its situation by gravitation; the stomach, intestines, and bladder, were in a natural condition; but the inferior part of the left lung was much altered in appearance, and gorged with blood.

CASE.—A boy, aged eight years and a half, was admitted into Guy's Hospital in consequence of a severe injury he had sustained from a blow on the abdomen. His father stated that the boy was "minding his truck," when a waggon heavily laden drove against the wheel of the truck, and swung it round with considerable violence, the handle striking the boy just at the junction of the cartilages of the eighth and ninth ribs, forcing him against the post of the gate-way, into which he had drawn his truck to get out of the way of the waggon. Immediately after the boy had received the blow he fell, but was able to rise and walk a few steps; he again, however, fell, upon which he was conveyed to a surgeon's, who finding him in a state of collapse, gave him some stimulant, and sent him to the hospital.

At the period of his admission, nearly an hour after he had received the injury, he pourtrayed great anxiety and pallor of countenance; coldness over the whole surface of the body; and some pain in the abdomen, which was not increased by pressure; his pulse could not be felt, but the heart's action was perceptible, although it was beating very feebly. He was immediately put to bed, wrapped up in blankets, bottles of warm water applied to his feet, and friction used to restore if possible the warmth of the body. A small quantity of julep ammoniæ was also administered. Under this treatment he seemed somewhat to rally, but only for a few minutes, when he relapsed into his former state of collapse. Upon now being asked if he suffered, he said the "pain in his belly increased." He died half an hour after his admission.

Twenty-four hours after death, his body was examined.—Externally there was evidently some slight ecchymosis near the external extremities of the seventh and eighth ribs on the right side, and opposite to the last two ribs on the left. On opening the chest nothing particular was observed; but upon inspecting the abdomen, it was found to contain a very large quantity both of coagulated and fluid blood, which proceeded from the left kidney, the upper portion of which, above the renal vessels, was torn from the lower part, which remained in its natural position. The fluidity of the blood probably depended upon its admixture with urine. There was some ecchymosis on the liver, opposite to that on the chest, so that it appeared as if the kidney had been lacerated by the "contre coup," owing to the boy's back being driven against the gate-post: the liver was merely bruised, and the rest of the viscera were uninjured.

In consequence of the great depth at which the kidneys are placed, their rupture is an accident of comparatively rare occurrence; and the diagnostic marks are rather difficult, particularly at first, until indeed bloody urine, and the situation of the pain, indicate the nature of the injury. The treatment in these cases, as in the injuries of the abdomen, is to prevent or subdue peritoneal inflammation, and this can only be effected by the strictest antiphlogistic means. In the foregoing case, however, collapse prevented the possibility of such treatment being adopted. It is evident that the cause of death was the extravasation of blood into the cavity of the abdomen, producing that degree of irrecoverable prostration, which is so strong a mark of injury to the abdominal viscera.

About five years ago I was sent for to see a gentleman, who, in stepping on board a steam-boat, fell partly down a trap hatch on the deck. In falling, he struck his loins violently against the edge of the opening: he immediately felt very sick, was attacked with severe pain, and was obliged to be carried home. I saw him about six hours after the accident; there were no signs of collapse, but he was still in very great pain, and in two attempts to make water had voided little else than blood. I immediately took 12 ounces of blood from the arm, and had 8 ounces removed from the loins by cupping. I ordered a grain of calomel, and half a grain of opium, every six hours; and as there was sufficient evidence that the intestinal canal was uninjured, I also prescribed acidulated saline draughts. The patient continued to pass bloody urine for several days: he suffered also from pain along the course of the ureters; and when this symptom had ceased, he continued to experience considerable pain in the region of the kidnies, particularly of the right kidney: the pain was much increased by motion. A blister was applied on the right loin, and the cupping repeated: under this treatment he was soon considerably relieved. The urine improved in colour, and a greater quantity was also passed; the pain in the loins was diminished, and in six weeks he became quite convalescent. There can be no doubt that in this case the right kidney received great injury, probably lesion, but not to a sufficient extent to admit of extravasation of urine, and by perfect rest the mischief became ultimately repaired.

The solid viscera are, as we should naturally suppose, more liable than the hollow, to rupture from a blow on the abdomen, without the lesion of its parietes. Rupture of the hollow viscera sometimes occurs, however; and I have seen many instances in which the intestines, and some few in which the urinary bladder, have been thus injured. The symptoms arising from rupture of an intestine without lesion of the abdominal parietes, might lead you to suppose, gentlemen, that the diagnosis in such a case would be somewhat difficult to determine. Such is not, however, the fact, as there are always sufficiently marked characteristic points to enable the surgeon to judge accurately of the nature of the injury, and to decide with confidence on the proper mode of treatment. In this kind of injury, as well as in penetrating wounds of the intestine, collapse is the immediate effect; and in this stage it may be necessary to administer stimuli to produce reaction. Antiphlogistic means should next be employed, to subdue the slightest tendency to peritoneal inflammation; but purgatives must be strictly withheld, as the constipation which invariably follows these injuries must be regarded as the curative means adopted by nature for the purpose of ensuring a perfect state of quietude of the intestine during the progress of the reparative action. A patient has often been destroyed, gentlemen, by the too hasty administration of purgatives, the surgeon having mistaken constipation for the disease, when in fact it is the condition most essential to the curative process. Physicians are constantly meeting in practice with cases of chronic ulceration of the intestines, particularly of the cæcum, in which constipation, attended by more or less fixed pain, forms a very prominent feature. In these cases no practitioner ever thinks of giving purgative medicines, but hails the quiescent state of the bowels as the surest indication of the restorative action which nature has established. After the operation for strangulated hernia also, no surgeon who is well acquainted with the principles of his art would dream of prescribing purgatives, but would leave nature to her own resources, in the certainty that the bowel would be evacuated when the injured portion became again competent to the performance of its natural functions. It has, indeed, in my opinion, seldom, if ever occurred, that a patient died of mere constipation, without some irrecoverable disorganization had gone on in the course of the intestinal canal.

Whether it be a small or large intestine that is ruptured may be partly judged of by the situation in which the greatest pain is experienced, and partly by the urgency of the sickness produced,—for when the small intestines are the seat of the injury, vomiting, as well as constipation, constitutes an early and important symptom; while in case of lesion of the large intestine, constipation and swelling of the abdomen form the most marked feature of the accident, and the vomiting does not come on until a more advanced period in the progress of the symptoms.

The gall-bladder may be ruptured by a blow upon the abdomen, and is immediately followed by collapse, sensation of coldness on the surface of the body, and a sense of deep-seated heat through the whole interior of the abdomen. Sickness soon comes on, ushered in by rigor, and the patient generally sinks a few hours after the accident, death resulting from effusion of bile into the peritoneal cavity. Rupture of the stomach leads to very similar results; but vomiting of its contents, mixed with blood, forms a distinctive diagnostic mark. When the urinary bladder is ruptured, if the lesion involves any portion covered by peritoneum, death rapidly follows the infliction of the injury, and medical treatment is completely unavailing, as the patient dies without rallying from the state of collapse, and consequently antiphlogistic means cannot be had recourse to. But if the bladder be ruptured so that the extravasation of urine take place exterior to the peritoneal cavity, the vital powers are not to the same degree affected, and active means may prevent inflammation from following. The urine should be drawn off from the bladder, to prevent any accumulation which may possibly occur notwithstanding the rupture of the organ, and an opening should be made in the perineum, even through the deep fascia, if there be any indication of urine being extravasated between the bladder and rectum. Several cases are recorded in which individuals have completely recovered after such an accident, where the rupture has been external to the peritoneum; and, indeed, even where that membrane has undergone lesion, there may be reasonable hope of recovery, if the quantity of urine extravasated be not large, and judicious means be employed to prevent or subdue peritonitis.

LECTURES
ON THE
DISEASES OF INFANCY AND CHILDHOOD,

Delivered at the Middlesex Hospital.

By Charles West, M.D.

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Lecture XXXVIII.

Small-pox—checked but not extirpated by vaccination—its chief mortality among children. Rate of mortality in cases of the disease undiminished during the last fifty years. Its symptoms—their early differences from those of the other exanthemata—characters and progress of the eruption — peculiarities of confluent small-pox—dangers attending the maturation of the pustules, and the secondary fever. Treatment.

Modified small-pox—its low rate of mortality—its peculiarities. Chicken pox—its symptoms, and differences from small-pox.

Until the commencement of this century, the disease to which I wish to-day briefly to call your attention, possessed a degree of importance far greater than that which attaches to it at present. Before the introduction of vaccination, the *small-pox* was a disease of almost universal prevalence, causing at the least eight per cent. of the total mortality of this metropolis, and disfiguring for life thousands whom it did not destroy. Its loathsome character, and its formidable symptoms when it attacked the constitution at unawares, led to the adoption of variolous inoculation, by which the disease was communicated in a mild form, and under favourable conditions; and persons having undergone comparatively little suffering, and having been exposed to still less danger, enjoyed by this means almost complete immunity from subsequent attacks of small-pox. But great as its benefits were, variolous inoculation perpetuated at all times, and in all places, a disease which would otherwise have obeyed the general law of epidemics, and would have had its periods of rare occurrence as well as those of wide-spread prevalence. Thus, as has been well observed, while the advantages of the practice were great and obvious to the individual, to the community at large they were very doubtful.

No such drawback exists to detract from the benefits of vaccination, though unfortunately our present experience does not altogether justify the sanguine expectations entertained by its first promoters. Peculiarities of climate oppose a serious barrier to its successful introduction into some countries,* and even in our own land individuals are occasionally met with in whom vaccination altogether fails, or over whom it seems to extend but a partial or a temporary protective power.

But I will not enter on the question of the merits of vaccination, nor of the circumstances that impair its preservative power, or call for its repetition: for though the subject is one important alike to the physician and the philanthropist, I have had no opportunities of forming a judgment concerning it which are not alike open to you all. In the writings of Dr. Gregory, physician to the Small-Pox Hospital, and in the treatise on vaccination by Dr. Steinbrenner, to which the Institute of France adjudged a prize in 1835, you will find everything that either large experience or unwearied research could bring to its elucidation.

One fact, which it behoves us always to bear in mind, is, that albeit the prevalence of the disease has been greatly checked by vaccination, small-pox is still one of the most fatal maladies of this country; and further, that it selects its victims, as heretofore, chiefly from among children and young persons: nearly three-fourths of the fatal cases of this affection occurring before the age of five, and more than nine-tenths before the age of fifteen years. In spite, too, of the increase of medical knowledge during the past fifty years, the proportion of small-pox cases that terminate fatally, has been estimated by the best authorities to be as great now as it was half a century ago. To some extent, perhaps, the very diminution in the frequency of the disease may have had an unfavourable influence on its issue in individual cases: for practitioners, meeting with it less often than medical men in former days were wont to do, are not so familiar with the meaning of those minuter variations in its symptoms, from which important practical conclusions might be drawn, by those who knew how to interpret them aright.

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* Dr. Duncan Stewart's valuable Report on Small-Pox in Calcutta, and Vaccination in Bengal (8vo. Calcutta, 1844), shews conclusively that the peculiarities of the Indian climate present obstacles to vaccination such as greatly detract from its value; while it is to be feared that they are of a nature which the greatest care will never wholly overcome.

Let me therefore urge you to watch every case of this formidable disease that may come under your observation with most minute care, lest you misinterpret the symptoms, or mistake the treatment of some patient affected with it, whose well-being may be dependent on your skill. For my own part, I cannot pretend to give you more than an outline sketch of its characters, and must refer you to the writings of others who have had greater opportunities of watching it than have fallen to my share, to fill up the portrait.

The early *symptoms* of small-pox are those of approaching fever, and if any other febrile disorder be prevalent at the time of their occurrence they may possibly be taken for the indications of an approaching attack of the prevailing epidemic. There are, however, some peculiarities in the mode of onset of small-pox which are sufficiently characteristic of it, even in the child, and which will generally distinguish it from either of the other eruptive fevers. The sickness with which it sets in is in general severe, and the disorder of the stomach often continues for forty-eight hours, during which time vomiting recurs frequently. In measles there is comparatively little gastric disorder; and the vomiting that often ushers in scarlatina, though frequently severe, is not of such long continuance. In young children we lose those complaints of intense pain in the back which in the case of older patients often awaken our suspicion; but on the other hand, the severity of the cerebral disturbance is an important feature in the early stage of the disease. At the commencement of measles, the brain is in general but little disturbed; in scarlatina, delirium often occurs very early; but in small-pox the condition is one rather of stupor than of delirium, while convulsions sometimes take place, and continue alternating with coma for as long a period as twenty-four or thirty-six hours. Lastly, though the skin in small-pox is hot, it is neither so hot nor so dry as in scarlet fever: the tongue does not present the peculiar redness, nor the prominence of its papillæ, which are observable in scarlatina; neither is there any of the sore-throat which forms so characteristic a symptom of that disease. The early stages of small-pox are not attended with those catarrhal symptoms which accompany measles: the eruption of measles usually appears later, that of scarlet fever always sooner, than the eruption of small-pox; while its papular character is in general sufficiently well marked to distinguish it from the rash of either of these diseases. It never appears in less than forty-eight hours, often after a somewhat longer time from the first sign of indisposition: and shews itself in the form of small papulæ, which are first discernible on the face, forehead, and wrists, whence they extend to the trunk and arms, and lastly to the lower extremities. These papulæ are at first slightly red, somewhat acuminated, elevations, so minute that they may easily be overlooked on a hasty examination, but yet conveying a distinct sense of irregularity to the finger when passed over the surface. They increase in size, and in the course of forty-eight hours assume a vesicular character, and contain a whey-like fluid; while, instead of a conical form, they now present a central depression. During another period of forty-eight hours or thereabouts, these vesicles go on enlarging, their central depression grows more and more apparent, and their contents become white and opaque; they are no longer vesicles, but have become converted into pustules, each of which, if they be distinct, has an areola of a red hue around its base. As the pustules enlarge, the face, hands, and feet, become swollen, and a general redness of their surface succeeds to the more circumscribed areola, which had previously surrounded each separate pustule. As the size of the pustules increases, they lose that central depression which they had presented while vesicles: they assume a spheroidal form, or even become slightly conical. The next change observable in them is an alteration of their colour from a white to a dirty yellow tint, which last they continue to retain until the desiccation of the eruption commences. This token of the decline of the disease is first apparent on the face, where, as you will remember, the eruption is earliest observable; while on the hands and feet, probably owing to the thickness of the epidermis in those situations, this change is longest delayed, and the pustules there attain a greater size than in any other situation. The *maturation* of the pustules usually occupies from the commencement of the fifth to the commencement of the eighth day of the eruption, or from the eighth to the eleventh day of the disease, when the process of *desiccation* begins. A few of the smaller pustules dry up and become converted into crusts, which afterwards drop off; but the greater number of them burst, and the pus which they discharge, together with a very adhesive matter which they continue to secrete for two or three days, contribute to form the scab which incrusts, more or less extensively, the surface of a small-pox patient during the decline of the disease. When this scab falls off, which it does in from three to five or six days, the skin appears stained of a reddish brown colour, which often does not disappear for several weeks; but it is only in cases where the pustule has gone so deep as to destroy a portion of the true skin, that the permanent disfigurement, the so-called pitting of the small pox, is produced.

It is only in cases of *discrete* small pox, in which the eruption is but moderately abundant, and the pustules consequently run their course without coalescing with each other, that the above-mentioned changes can be distinctly traced. In the *confluent* variety of the disease, in which the pustules are so numerous that they run together as they increase in size, the characteristic alterations in the individual pustules cannot be followed. In those situations where the eruption is confluent, the pustules never attain the size which separate pustules often reach; they do not become so prominent, nor do their contents in general assume the same yellowish colour, but several of them coalesce to form a slighty irregular surface of a whitish hue; while, when the stage of desiccation comes on, each of these patches becomes converted into a moist brown scab, which is many days before it is detached. Nor is it merely at those parts, such as the face, where the eruption is actually confluent, that its character is modified, but, even where the pustules are distinct, their advance goes on more slowly, and the maturative stage is longer in being completed, than in less severe cases of thedisease. It is, moreover, in cases of confluent small-pox that the ulceration of the pustules most commonly invades the true skin, and that serious disfigurement is most likely to take place; while further, the degree of danger to life is in almost direct proportion, in every case of small-pox, to the amount of confluence of the eruption.

The appearance of the eruption of small-pox is attended with a great abatement, sometimes with the almost complete disappearance, of those signs of constitutional disturbance with which the disease set in; and in mild cases the child shows few other signs of illness than are furnished by the eruption on the skin. But, with the maturation of the pustules, the *secondary fever*, as it is called, is excited, and the period of the greatest danger to the patient now comes on. The skin once more grows hot; the pulse rises in frequency; restlessness, thirst, and all the phenomena of inflammatory fever, develop themselves, and continue with more or less intensity for about three days. These symptoms afterwards diminish, and finally disappear as the pustules burst, and the stage of desiccation is accomplished. It is, however, only in cases of a favourable kind that the secondary fever runs so mild a course. In confluent small-pox, the secondary fever is always more severe than in the discrete form of the disease, though it comes on later, in consequence of the more tardy maturation of the pustules. Often, indeed, it assumes a typhoid character; the pulse becomes extremely frequent and feeble; the tongue dry and brown; and the patient dies delirious. In other instances the maturation of the pustules goes on for a day or two with very slight reaction; and were it not that this extreme mildness of the secondary fever, in cases where the eruption has been abundant, is itself a suspicious circumstance, we should be disposed to express, without hesitation, a most favourable opinion as to the patient's condition. Suddenly, however, the pulse begins to falter; the pustules, which before seemed full, collapse; the extremities grow cold; and in a few hours the patient dies. This fatal change is sometimes ushered in by a fit of convulsions; at other times by a condition of extreme restlessness, which contrasts remarkably with the extreme quietude of the child's manner for the two or three previous days: and it is well to bear in mind that the supervention of either of these two symptoms during the maturative stage of small-pox, is the almost certain herald of speedily approaching death. One other not infrequent source of danger during this period, arises from the pustules which have formed on the mucous membrane of the mouth, fauces, and air-passages. In almost every case of small-pox, a few spots of the eruption may be seen upon the tongue and on the interior of the mouth; while an inspection of the bodies of patients to whom it has proved fatal, has shown that the pustules form likewise on the interior of the larynx and trachea: sometimes in considerable numbers. It is to the presence of pustules in these situations that the hoarse or altered voice, and the difficulty of deglutition, which are observed in most cases of severe small-pox, are due; as well as that short hacking cough which sometimes proves a very troublesome symptom. The ptyalism, too, which occurs in many instances, is apparently owing to the salivary glands sympathising with the irritated and inflamed state of the mucous membrane of the mouth. In cases which run a fortunate course, these symptoms, having come on about the third or fourth day of the eruption, and having increased in severity until the eighth or ninth, then progressively decline. Under less favourable circumstances, however, they continue to grow worse: the voice becomes perfectly extinct, and deglutition almost impossible; and the patient dies from the obstacle which the inflammation and swelling of the lining membrane of the larynx present to the free access of air to the lungs; though the symptoms are seldom or never those of active inflammatory croup.

You will find in the writings of those whose opportunities of observing small-pox have been considerable, the description of many other modes in which it occasionally proves fatal. Thus, it is sometimes associated with a great tendency to hæmorrhage; petechiæ appearing on the surface of the body; and the pustules assuming a black colour, from the extravasation of blood into them. In other instances, gangrene attacks the feet or some other part of the body. But these are occurrences which it has not been my lot to witness, and I will not therefore take up your time by detailing them at second-hand.

Let us now glance for a few minutes at the *treatment* to be pursued in this disease. You know that before the time of Sydenham, physicians adopted a heating regimen in cases of small-pox: excluding fresh air from the chamber, covering the patient with blankets, and administering stimulating medicines and cordial drinks. To this practice the prevalent theory of fermentation, and of nature's efforts in disease being directed to eliminate the pecccant matter from the blood, had given occasion. In accordance with these notions it was assumed that, the more abundant the eruption, the more complete would be the separation of these noxious matters, and consequently the better the chance of the patient's well doing. The observation of nature, however, taught Sydenham that the very reverse was the case;—that the more abundant the eruption, the greater the danger,—the fewer the pustules, the more favourable the prospect of the patient's recovery. A cooling regimen, therefore, is now universally adopted in the early stage of the disease, and fresh air is freely admitted into the chamber, in order to prevent, if possible, a copious eruption, while the same end is sought to be still further promoted by keeping the bowels gently open, by a spare diet, and by mild antiphlogistic medicines. Depletion, which even in the adult is not to be practised merely with the hope of thereby diminishing the quantity of the eruption, is still less to be resorted to in the child, unless evidently called for by symptoms of severe cerebral disturbance—such as convulsions frequently recurring, or ending in coma. Such occurrences as those, however, demand not merely the abstraction of blood, but its removal with an unsparing hand,—for, as I told you at the commencement of these lectures, the cerebral congestion which attends the onset of the eruptive fevers, if not speedily relieved, may prove very quickly fatal. Cases of an opposite kind are sometimes met with in which the patient before the appearance of the eruption is in a state of depression so great as to call for warmth to the surface, or for the hot bath, for diaphoretic medicines, and sometimes even for stimulants. In this, however, there is nothing more than we may occasionally witness in a patient completely prostrated during the first stage of typhus fever, and needing perhaps the free administration of wine and ammonia to preserve him from death.

With the outbreak of the eruption there ensues lull in the symptoms, and a period now succeeds during which we have nothing else to do than to leave nature to her workings undisturbed. Even in cases of confluent small-pox, there is in many instances not a single symptom just at this time which could either excite solicitude or call for treatment, and you must therefore take care not to allow yourself at this moment to be betrayed into the hasty expression of a very favourable prognosis, which the supervention of the secondary fever may perhaps in a day or two most grievously belie. If, however, the number of pustules should be but small, the secondary fever will be slight, our favourable opinion may be expressed with some confidence, and no deviation from our previous expectant plan of treatment will in all probability be required during the subsequent progress of the disease. If the eruption be more abundant, and the accompanying secondary fever consequently severe, an antiphlogistic plan of treatment must be carried out more strictly, while in all cases the restlessness which is so common a symptom during the maturative stages of small-pox, must be controlled by the administration of Dover's powder, or some other form of opiate once or twice a day. In cases of confluent small-pox, the patient needs to be very closely watched during the maturation of the pustules,—for on the second or third day of this process, the vital powers sometimes suddenly fail. The first indications of any such occurrence, which would be furnished by a great aggravation of the previous restlessness, by the subsidence of the swelling of the face and hands, the paleness of the skin in the interval between the pustules, and the collapse of the pustules themselves, attended with a sinking in the temperature of the surface, and a great diminution in the powers of the pulse, call at once for the energetic employment of stimulants, for the administration of wine, and the substitution of nutritious food for the previous meagre diet. A similar course must also be pursued whenever the secondary fever shows any disposition to assume a typhoid character, while irrespective of any unfavourable symptoms it is not infrequently expedient, if the eruption be abundant, to give beef-tea, and to adopt other means for supporting the strength from the fifth or sixth day of the eruption—a period corresponding, as I hardly need remind you, with the eighth or ninth day of the disease.

Various local means have been recommended to be adopted at an early stage of the disease, with the view of preventing the full development of the pustules, and consequently of preserving the patient from the disfigurement produced by the pitting of the eruption. The cauterization of each individual pock with the nitrate of silver, is a process impracticable from its tediousness, while there is some discrepancy in the results which different persons allege that they have obtained by applying mercurial ointment or plaster, or by washing the surface which it is wished to defend with a solution of corrosive sublimate. The weight of evidence appears to me, however, to be in favour of some proceeding of this kind, and that which seems to have been the most successful, is the application of the mercurial plaster at a period not later than the third day from the outbreak of the eruption.

Attention must be paid to the state of the eyes, which often suffer much during attacks of the small-pox, though Dr. Gregory states that the conjunctiva never becomes the seat of the pustules. From the time when the swelling of the face begins, during the maturation of the eruption, the eyelids are often so much swollen as completely to close the eyes, while their edges are glued together by a tenacious secretion from the Meibomian glands. The patient will be much relieved by bathing the eyes frequently with warm water, and any pustules that occupy the margin of the palpebræ should be carefully cauterized with the nitrate of silver.

The condition of the mouth and throat must not be neglected. If old enough, the child may be made to gargle with a little infusion of roses, while, should it be too young to do this, the endeavour must be made to keep the mouth and throat free from the secretions which collect there, by washing them frequently with warm water, and applying a weak solution of chloride of lime to the fauces. If difficult respiration should come on in consequence of the affection seriously involving the larynx and trachea, the patient's condition, according to the testimony of almost all writers, is rendered nearly hopeless.

The intense itching of the eruption during the latter part of the period of maturation, and the stage of desiccation, not only distresses the patient exceedingly, but is often the occasion of subsequent disfigurement, in consequence of the desire to scratch being irresistible, and the pustules being converted by abrasion of their heads into troublesome ulcerations. The application of sweet oil, cold cream, or spermaceti ointment, will do something towards allaying the irritation; but you will often find it necessary to muffle the hands of children, in order to prevent their producing troublesome sores by scratching themselves.

The convalescence from small-pox is often very tedious; the patient's recovery is frequently interrupted by various intercurrent affections, and the latent seeds of scrofulous disorder are in many instances called into activity by its attack. These, however, are occurrences which present nothing of a special character, and it is therefore unnecessary to make any observations with reference to their treatment.

Although previous vaccination usually confers upon the system a complete immunity from subsequent attacks of small-pox, yet to this rule there are occasional exceptions. In many instances, indeed, the occurrence of small-pox after alleged successful vaccination may be accounted for by the careless performance of that operation, the use of lymph taken from the arm at too late a period, or the production in some way of a spurious instead of a genuine vaccine vesicle. It must be confessed, however, that when every allowance has been made for these casualties, the number of cases of small-pox occurring after successful vaccination, is proportionably much greater than the number in which a second attack of small-pox is experienced by those who have either had that disease casually, or in whom it has been produced by variolous inoculation. It would occupy far more time than we have at our command, if we were to attempt to enter upon the inquiry as to the causes of the failure in the protective power of vaccination. Different views have been taken by very high authorities upon this subject; but there is one important fact concerning which nearly all are agreed—namely, that the liability to a subsequent attack of small-pox is almost incalculably diminished by revaccination. Considering, then, how simple the operation is, and how nearly painless its performance, while the benefit to be obtained by it is so inestimable, I would strongly urge you to revaccinate all persons turned 12 years old, even though they had been vaccinated with the most complete success in their infancy.*

But although we should take a comparatively low estimate of the value of vaccination, and confess to the fullest extent the failure in its *complete* preservative virtue, we shall yet find, in the modifying and mitigating influence which it exerts over small-pox, more than enough to make us value it as a priceless boon. Twenty years ago small-pox raged epidemically at Marseilles, where it attacked almost exclusively persons under 30 years of age. M. Favart,* who sent an account of this epidemic to the Academy of Medicine at Marseilles, estimated the number of the inhabitants under 30 years of age at 40,000. Of these, about 30,000 had been vaccinated, 2,000 had had small-pox casually or by inoculation, and 8,000 had had neither variola nor cow-pox. Of this last class, 4,000, or 1 in 2, were attacked by small-pox, and 1000 of them, or 1 in 4, died. Of those who had had small-pox previously, only 20, or 1 in 100, were again affected; but 4 of these, or 1 in 5, died; while of the vaccinated, although 2000, or 1 in 15, had it, yet it proved fatal only to 20, or 1 per cent.

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* For facts shewing the preservative influence of revaccination, see Steinbrenner, Traité sur la Vaccine. 8vo. Paris, 1846, p. 683—734.

The influence of vaccination in rendering attacks of small-pox which may succeed to it, so much less severe, and so much less dangerous, than the unmodified disease, does not in many instances manifest itself in any diminution of the intensity of the primary fever. The symptoms with which modified small-pox sets in are often as severe as those of the unmodified disease, and are also in general of the same duration. So soon as the eruption begins to make its appearance, however, the difference between the two diseases in general becomes apparent. In many instances, notwithstanding the sharp onset of the patient's illness, the eruption is exceedingly scanty, not more than from 20 to 100 pustules appearing over the whole body. In other instances the eruption is much more abundant, and in a few exceptional cases the pustules are actually confluent. But even when they are most numerous, the pustules seldom fail to follow a different course from that which they pursue in ordinary variola, and run through their different stages within little more than half the period required by the eruption of unmodified small-pox. The small size of the pocks,—the frequent absence of the central depression,—their imperfect suppuration,—and their speedy desiccation,—are the chief local characters of this affection; while the almost complete absence of the secondary fever, is both its grand constitutional peculiarity and the main source of the patient's safety.

Besides the modified small-pox to which reference has just been made, there is another and still milder affection often observed in children, to which, from the extreme lightness of the symptoms that usually attend it, the diminutive appellations of *varicella* or *chicken-pox* have been given. Much difference of opinion has existed with reference to the relations borne by this disease to small-pox; and even at the present day, writers are not quite agreed whether to regard it as an extremely mild form of variola, or as an affection altogether distinct from it. The weight of evidence, however, is decidedly in favour of the opinion that varicella is an affection distinct from, and wholly independent of, small-pox, not being produced by any modification of the poison of that disorder, nor affording any kind of protection from its attacks.

Varicella is almost exclusively a disease of childhood, and in the great majority of cases it occurs prior to the completion of the first dentition. Its initiatory fever, which is scarcely ever severe, is sometimes altogether wanting, so that the appearance of the eruption on the surface is the first occurrence that calls attention to the child's condition. Now and then, however, exceptions occur to this mildness in the onset of the disease; and I have occasionally seen children (chiefly those in whom the process of dentition was going on with activity at the time of the attack) suffer for 24 or 36 hours from febrile symptoms, quite as severe as those which precede the attack of measles, or as accompany a sharp attack of influenza. The duration of this premonitory stage of chicken-pox is somewhat uncertain; the vesicles which characterize it making their appearance after 24 hours in some cases,—not for 36 or 48 hours in others; while, as already mentioned, the eruption is occasionally the first symptom of the existence of the disease.

The eruption usually consists of more or less numerous, minute, circular, vesicles, containing a transparent serum, irregularly distributed over the face, head, shoulders, and trunk, but rarely appearing on the lower extremities; and, even when present in considerable abundance, being very seldom confluent at any part. For two or three days they increase somewhat in size, but their contents then become turbid and milky; about the fourth or fifth day they shrivel, and then dry up into a light, pulverulent, scab, which falls off on the eighth or ninth day of the disease. It very seldom happens that any cicatrix is left after the detachment of the scab of varicella, unless the skin has been irritated by the patient scratching it in order to relieve the itching, which is sometimes very troublesome. Besides these differences between the eruption cf chicken-pox and that of variola, another, and still more striking peculiarity of the former disease, consists in the appearance of two or three successive crops of vesicles, so that after the third day of the affection vesicles may be observed close to each other in all stages of their progress.

The disease is one so void of danger, that it requires hardly any treatment beyond the adoption of a mild antiphlogistic regimen; and no complications occur during its course, nor sequelæ remain after its disappearance, concerning which any thing more need be added.

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* As reported by Steinbrenner, op. cit. p. 166.

Original Communications.

A COLLECTION OF FACTS ILLUSTRATIVE OF THE
MORBID CONDITIONS OF THE PULMONARY ARTERY.
AS BEARING UPON THE TREATMENT OF CARDIAC AND PULMONARY DISEASES.

By Norman Chevers, M.D.
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[Continued from p. 626 of preceding volume.]

OBSTRUCTION TO THE PULMONARY ORIFICE CONSEQUENT UPON ENDOCARDITIS—CONTINUED.

The following case of obstructive disease of the pulmonary valves, with which I have been kindly favoured by my friend Dr. Edward Lloyd, in whose practice it occurred, is probably the most remarkable instance of the kind on record, in the extent of the disease, as well as in several of the circumstances which attended its progress: it appears to me to afford an almost unique, though most instructive, example of cardiac disease:—

Amelia S., ætat. 38, came under the care of Dr. Lloyd, on the 3rd of February, 1845. She was a dark-complexioned sallow woman, with a very anxious and haggard expression of countenance; she was by occupation a work-woman at a dry-salter's, where she had been chiefly employed in packing galls, in lifting heavy weights, and in having to go up and down flights of stairs. She had always been an active person, and in these habits continued until confined by her last illness. Her habits were intemperate, and of late they had been more so than usual. In the preceding October, she was run over, but it was not certain that she received any material injury; still her head was cut, and her husband maintained that from that time she became less healthy than formerly. She, however, returned to work, and, up to Christmas-day, continued her usual avocations with her accustomed activity, frequently carrying sacks of two hundred-weight up and down stairs throughout the whole day. She had been subject to winter cough, and her husband appeared to think that she used sometimes to have attacks of fainting previously to her last illness, but her employer maintained that she was never short-breathed, and that he had never heard of her being faint: his expression was that "she could do the work of a man." Her attack commenced on Christmas-day, or soon afterwards. On that day she had a quarrel with her husband, when it is stated that he struck her several blows on the side, and she, from that time, complained of pain in that situation. This, however, does not appear to have attracted much attention, except that she was unable to go to work. On the Sunday following, she had another quarrel with her husband, when the neighbours interfered. On Monday she was very unwell, and on Tuesday she took to her bed, complaining of pain in her left side, which she ascribed to a blow from her husband. She now sent for Dr. Jewel: that gentleman observed the presence of a cardiac bruit. On the 3rd of February, when Dr. Lloyd first saw her, she had been ill five weeks; she lay on her left side, with an anxious expression of countenance, and peculiarly harassed though not difficult or laborious respiration, with every now and then a long deep-drawn breath, followed by a number of short inspirations. Respirations 36-40. Pulse 130, very small, sharp, and slightly irregular. She complained of pains in her limbs, knees, and ankles, but particularly in the right arm, on examining which an abscess was subsequently found over the biceps, but she appeared to suffer chiefly from a severe pinching pain, which sometimes gave the sensation of a knife going through her on her left side. Skin hot; bowels relaxed; sensorium undisturbed. She was extremely irritable. The hurry of respiration increased when she was raised. She complained of cough, with some expectoration of a mucous character, not allowing her any rest from the pain it caused in her left side. She was said to have eaten nothing for a week, had no desire for food, and could not sleep at night. The extreme hurry of respiration was very remarkable indeed. The chest was resonant throughout; the respiration coarse and loud at the apices of the lungs,—there was no abnormal pulmonary sound, with the exception of a slight mucous râle heard over the right scapula. The heart's sounds were indistinct, heard more clearly at the apex than at the base: in the latter situation there was an abnormal sound, (which appeared to Dr. Lloyd to have the characters of a pericardial *frottement*), heard over a space of about two inches in diameter from the right nipple to the sternum, but not at all audible in any portion of the course of the aorta or carotid arteries. This sound was superficial and loud, but soft, with a distinct back stroke. No fremitus could be felt. She was ordered calomel and opium at night: serpentary and ammonia, and sago, beef-tea, and calves'-foot jelly.

On the 4th, she was much in the same condition; had passed a very restless night; her cough was troublesome; she expectorated frothy mucus tinged with blood. The abdominal cardiac sound was unchanged; the respiration was still extraordinarily hurried. Pulse 135, small and sharp. The urine was found to be slightly coagulable. There had been one loose motion during the night. The liver could be felt below the ribs. She now complained of pain in her right side on auscultation: a slight rubbing was heard in this situation. Emplast. Lyttæ. lat. sinist.; Hydrarg. Chlor. gr. i.; Opii, gr. i. nocte, et P.

On the 5th, she felt better; her face was less anxious. She had passed a comfortable night, and slept a good deal during the day. The skin was perspiring; she was extremely weak, and when she got out of bed she was obliged to lie on the floor to avoid fainting. She had done this for some time during her illness. The tongue was clean and moist; the blister had risen well. Pulse 130, small, and irregular in the duration of each beat. The cough was relieved, but respiration was still hurried. After a severe fit of coughing she became very cold and faint, and hot bottles and flannel were necessary to keep her warm. Her appetite was much improved; she had taken calves' foot jelly. The right arm was painful; the pain in the legs was less. P. M. Habt. Vin. ℥iv.

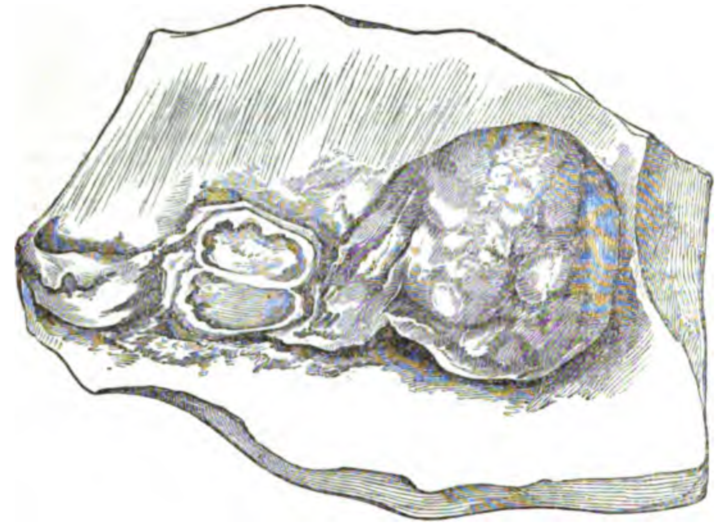
6th.—Was much agitated on the preceding night; since which she continued to grow worse. The countenance was more sunken; the respiration very hurried; pulse slower, 100, and intermittent; the cough troublesome; the heart's sounds were much more indistinct; and the abnormal murmur feeble. There was some dulness at the base of the left lung, with some ægophony. The tongue was rather brown; lips dry and parched; sordes on the teeth. She had not had the wine ordered, which was prescribed at last visit. Brandy ℥iv.; Infus. Serpentariæ C. et Tr. ejusd. c. Ammon. Sesquicarb. gr. v. quartis horis.

On the 7th, she was much lower; the abnormal cardiac sound was heard over a smaller space; the heart's sound was irregular and indistinct. Respirations, 40. Pulse, 114. Tongue brown; teeth covered with sordes.

On the following day she was much the same; the pulse was slower, about 90, very weak, and hardly to be felt. Respiration was very hurried; there was subsultus, and she was evidently sinking. She died on the morning of the 10th, having sunk gradually.

Autopsy.—The body was very spare and thin. The abscess on the fore part of the right arm was found to contain about an ounce of sanious pus, with some old coagula of blood. Recent and soft pleuritic adhesions were found on the right side of the chest, with pneumonic consolidation, approaching the stage of grey hepatization, of a small patch in the centre of the lung. The base of this lung presented a somewhat congested appearance, which was probably cadaveric. Both lungs, when cut into, yielded a large quantity of serum, mixed with air-bubbles. On the left side there were a few old pleuritic adhesions, with some fluid in the pleural cavity; the lung itself presented no other morbid change than œdema. The pericardium contained about two drachms and a half of fluid, and was perfectly healthy. The heart was of a normal size, and not at all gorged with blood. The left side was healthy; both aortic and mitral valves were sound. There was no hypertrophy or dilatation. The tricuspid valve was healthy. The right auricle contained a coagulum, but was not distended; the right ventricle also contained a small coagulum. On examining the *pulmonary artery*, a hard body was felt considerably obstructing its canal, but a probe was easily passed, and could be moved from side to side on the anterior wall of the artery; it could also be passed between two bodies which blocked up the valves. On carefully laying open the artery, its orifice was found to present two tumors and one valve; the tumors corresponding to the posterior valves, and having a crescentic surface on their ventricular margin. One of these masses was about double the size of the other, the smaller being about the size of a large walnut. When placed in situ, it was found that each had smooth corresponding surfaces, evidently produced by friction between the two bodies. They were, externally, of a dark grey or brownish colour, having generally a somewhat warty and roughened surface. On laying them open with a scalpel, they exuded a gelatinous fluid of a very tenacious character. They were hard, and apparently organised, with fibres arranged in small convolutions. They were light-coloured internally: their bases or ventricular margins were apparently in a state of inflammatory softening, breaking down on the slightest touch, and separating from the substance of the artery without difficulty. The gelatinous fluid was examined by the microscope, and found to contain nucleated cells, not of a malignant character. The remaining valve was covered with some shaggy vegetations or fibrinous deposit: it was of normal size, and smooth and healthy on its arterial or inner surface. The coronary arteries were healthy; there were two openings to either artery. The omentum was attached to the abdominal parietes by old adhesions. The liver was much enlarged, stretching down to, and encroaching on, the umbilical region: it was congested and coarse in structure, and adherent to the abdominal parietes. The spleen was also large. The kidneys were larger than usual, and of coarse structure; their tunics were adherent, and they were very lacerable and pale. The ileum was congested, and presented some spots of ecchymosis: it contained nothing but a small quantity of bilious mucus.

Among other valuable remarks which Dr. Lloyd has appended to his report of the above case, he observes that it proves how great an amount of obstruction may continue to be borne on the right side of the heart, provided the lungs are sound, and in working condition. He considers that the heart itself shewed no evidences of obstruction, as there was neither hypertrophy nor dilatation, nor even engorgement of its cavities: in fact, there was a singular absence of marked evidences of cardiac obstruction both before and after death. There was no impediment to the return of blood from the jugulars, no blueness of the lips, congestion of the countenance, or œdema of any part of the body. Dr. Lloyd very justly accounts for this absence of cardiac engorgement and external congestion in two ways: first, the quantity of the circulating fluid was small, the patient being thin, spare, and at rest, and must have become smaller and smaller as the disease of the valves increased, from the woman's taking no nourishment of any kind, and also from the reducing effects of treatment; and, secondly and principally, he thinks this circumstance accounted for by the remarkably hurried action of the lungs, whereby a small quantity of blood was sucked up by atmospheric pressure from the ventricle at every respiration. This, frequently repeated, he believes, answered the purpose of the natural and slower respiration, and larger supply.



This remarkable specimen is preserved in the collection at Guy's (numbered 1413^{53}.) The artery has the appearance of being much dilated. Large portions of the clots have been removed, but the remaining masses are still of extraordinary size. All the valves are ruptured at their lower attachments, but this has occurred subsequently to removal, owing to the extremely softened condition of the parts.

The preparation marked 1413^{50} in Guy's museum is the base of a heart in which the valves are more or less generally coated with layers of recent inflammatory product. Those portions of the ventricular surfaces of the *pulmonary* sigmoids which remain free from fibrinous laminæ appear to be pliable, and free from thickening or marked opacity. I have not succeeded in obtaining any history of the case.

Like the aortic sigmoids, the valves of the pulmonary artery occasionslly, but rarely, present rows of minute semitransparent wart-like vegetations, which are usually arranged in the form of double festoons at the lowest and most projecting parts of their surfaces of contact. I have elsewhere stated* my grounds for believing that these little bodies are not mere adventitious deposits from the blood, but organised growths from the endocardial surfaces, and that, under circumstances of disease, they are intended to protect the outlets of the heart from undue attrition, as well as from the deposition of clots, and also to prevent the occurrence of adhesion between opposed surfaces of inflamed valves.

[To be continued.]

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* Guy's Hospital Reports, vol. i. N. S., "Observations on the Diseases of the Orifice and Valves of the Aorta."

AN INQUIRY INTO THE

PROXIMATE CAUSE OF GOUT AND ITS RATIONAL TREATMENT.

BY ANTHONY WHITE, ESQ. M.B.
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I HAVE for some time been engaged in preparing a work on Diet, wherein I purpose among other things to trace out the connection between sundry constitutional disorders, and the habitual abuses of the digestive organs in childhood as well as in the adult age. I had intended to embody in that work certain theoretical and practical views, which long experience and reflection have led me to entertain on the subject of gout; but having been strongly solicited by several professional friends not to delay the publication of that portion of my notes, I have here thrown them into the shape of a separate paper.

In venturing to propound a new theory of gout, I do not conceal from myself the hazards I incur. The very announcement of my design must, I am aware, provoke against it a formidable array of prejudice, since it is natural to predict the failure of every fresh adventurer in an enterprise so often and so strenuously essayed, and always essayed in vain. On the other hand, I submit that there is a wide distinction between what is merely improbable, and what is impossible, and that, however difficult be the problem I profess to solve, at least it involves no absolute impracticability. It is safe to reject *à priori*, the claims of one who shall pretend to have discovered the perpetual motion, or the elixir vitæ, or to have unravelled the impenetrable mysteries of ontology; but an inquiry into the natural history of any given disease belongs to quite another category; nor does there exist any reason why science should ever halt in despair at any unaccomplished point in her proper business, which is in every instance to trace back step by step those trains of phenomena, to which, as we regard them in their unvaried order of sequence, we attribute the relationship of cause and effect. In some cases, this kind of research has been prosecuted almost to its last limits, whilst in others it has stopped short at any early stage, and there remained for centuries, in spite of countless efforts to discover the missing clue to the next step. But soon or late the clue will be found, and the further step achieved; for no amount of lost labour can exhaust the persevering energies of science—no lapse of time can subject her powers to bar or prescription. How often, to use the language of Sir John Herschel, how often have we "seen obscurities, which seemed impenetrable, in physical and mathematical science, suddenly dispelled, and the most barren and unpromising fields of inquiry converted, as if by inspiration, into rich and inexhaustible springs of knowledge and power, on a simple change of our point of view, or by merely bringing to bear on them some principle that it had never occurred before to try."

I believe that without arrogating to myself any inordinate share of acumen, I may affirm that through one of those happy accidents adverted to in the foregoing extract, I have been prompted to the true answer to that hitherto unsolved question—What is the proximate cause of gout?

In addition to the ordinary opportunities of a long professional life, my means of becoming intimately acquainted with this disease have been in part of a peculiar nature, such as falls in an equal degree to the lot of few medical practitioners, and such, I may boldly assert, as no man will be inclined to envy me. Corvisart's classical treatise on diseases of the heart was the work of a man who was himself afflicted with one of those organic maladies he so ably described. The symptoms of ulceration of the stomach were vividly portrayed by Béclard, from his own sad personal experience. The connection between organic disease of the brain and certain disorders of the sensorial functions, were illustrated, as they could never otherwise have been, by Dr. Wollaston's description of his own case, which he studied with the same serene sagacity and precision as characterised every other exertion of his noble intellect. I too, however, unfitted to to compare in other respects with those illustrious men, have this at least in common with them, that I have learned from my own sufferings, some facts likely, as I trust, to prove of considerable importance to medical science.

I am the offspring of parents both of whom were constantly the subjects of gout—a disease which was inherited by their four sons. Two of the latter (twins) died at the respective ages of 45 and 46, worn out by reiterated attacks of the malady. For myself, sharing largely in the family predisposition, I very early in life began to exhibit signs of latent gout, shewn in the ready conversion of common nutriment into acrid acidity; and among my earliest recollections are my mother's repeated administrations to me of magnesia and alkaline preparations, to remedy the heartburn with which I was constantly tormented. About the age of sixteen, a fixed aching pain occupied the middle flexor tendon of my right hand near the root of the finger, preventing its flexure. In the course of a week or two, the pain in the finger ceased suddenly, and was almost instantly succeeded by a severe attack of gout in the large joint of the great toe, ushered in by all the usual precursory symptoms. The subsequent visitations of the disease have extended over a period of forty years, during which it has successively affected every tissue of my body. Hence, I have had abundant opportunity not only to experiment upon the gout in my own person as regards dietetics and therapeutics, but also to study its natural history under the least ambiguous conditions, whenever, as not unfrequently happened, I allowed a paroxysm to run its course, and effect its own cure. It was chiefly by noticing what took place under such circumstances that I was led to entertain those views which I shall presently lay before my reader.

But first, for the sake of clearness, it will be well to define the actual state of our knowledge as to the intimate nature of gout; and this I think cannot be better expressed than in the following propositions, wherein Dr. Holland has comprised all that is ascertained, or to be strongly presumed on the subject:—

1. "That there is some part of bodily organisation disposing to gout, because it is an hereditary disease.

2. "That there is a *materies morbi*, whatever its nature, capable of accumulation in the system, of change of place within the body, and of removal from it.

3. "That though identity be not hitherto proved, there is a presumable relation between the lithic acid or its compounds, and the matter of gout; and a connection through this with other forms of the calculous diathesis.

4. "That the accumulation of this matter of the disease may be presumed to be in the blood; and its retrocession or change of place, when occurring, to be effected through the same medium.

5. "That an attack of gout, so called, consists in, or tends to produce, the removal of this matter from the circulation, either by deposition in the parts affected, by the excretions, or in some other less obvious way, through the train of actions forming the paroxysm of the disorder.

6. "That there is an intimate relation between the condition of gouty habit and the functions of the kidneys and liver, both in health and disease.

7. "And that the same state of habit or predisposition which in some persons produces the outward attack of gout, does in others, and particularly in females, testify itself solely by disorder of internal parts, and especially of the digestive organs."*

The opinion that hereditary predisposition to gout consists solely in a peculiar character of the ligamentous and other associated textures, is surely untenable, although it has been advocated by some authors of eminence. The disease, however prone to affect the joints chiefly, is incident likewise to all the other fibrous textures of the body without exception. The constitutional disturbance that precedes its attacks,—the many functional aberrations of the assimilating, secretory, and excretory organs by which it is accompanied,—its erratic character, and the rapidity of its transitions from one part to another,—are facts tending most strongly to the conclusion that the immediate cause of the malady is not local, but general, and that the vehicle of its diffusion over the whole system can be nothing else than the circulating fluids.

Furthermore, did we suppose that hereditary transmission of gout is identified with a peculiar condition of those solids which are the most frequent seat of gouty inflammation, its active development would then have to be accounted for in one or other of the two following ways:—Either the transmitted peculiarity in question is an actual *materies morbi* deposited in the vitiated textures, or it is such a structural peculiarity of the latter as renders them especially liable to the noxious influence of a morbid principle produced in the body by other causes. Either hypothesis leads to the conclusion that gout is a blood disease. The second of the two does this directly and immediately, for it assumes the independent existence of an exciting cause, to be brought in contact with the morbidly predisposed parts through the medium of the circulation; whilst, on the first hypothesis, it is evident that the transmitted *materies morbi* must be taken up into the blood, contaminating its mass, and producing in it effects analogous to those caused by other animal poisons imbibed from without.

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* Medical Notes and Reflections, by Henry Holland, M.D., p. 116.

But there is another class of solids, namely, those concerned in the functions of organic life, which have paramount claims to attention in every inquiry like the present. It is evident that any inherent vice in one or other of the great chylopoietic viscera, must of necessity induce a proportional depravity in the circulating fluids. Reasoning, then, *à priori*, there is nothing unwarrantable in the conjecture that the real *fons malorum* transmitted by the gouty to their offspring is an unwholesome blood-making apparatus. Such a conjecture, I repeat, is by no means improbable, and my own observations and reflections are all in favour of its positive truth.

On the whole, then, we may safely admit that hereditary gout is a disposition to generate a certain morbid matter within the body, whether that disposition be the effect of some abnormal organic condition, promoting its formation or impeding its due excretion, or of some transmitted impurity of blood, which tends, as usual in such cases, to reproduce and continue itself by vitiating the nutritive functions.

The same disposition, but created by other causes, must obviously exist in those cases in which gout occurs as an idiopathic disease. Its individual or ancestral origin is a circumstance which may influence the intensity of its development and its pertinacity in the system, but in no way affects its intrinsic nature. Whether hereditary or not, it presents the same general characteristics, and is of course attributable to the same material agent.

Setting out, then, from this cardinal principle of a *materies morbi* circulating with the blood, we have next to investigate its nature and its origin. And here we are struck, on the very threshold of the inquiry, by the close affinity between the gouty and the lithic acid diathesis — an affinity so remarkable that a very general disposition prevails among medical writers to consider lithic acid as the true gouty poison, and to impute its presence in the system to the impaired action of the kidneys.

As to this latter notion, the arguments adduced in support of it appear to me to be based on a singular misapprehension of patent facts. The discharge of lithic acid and its salts in the urine is a salutary process; and while the kidneys are actively performing such a process, it is strange, indeed, to charge them with creating the offensive matter they only serve to remove. It is not from the presence of lithic acid sediments in the urine of the gouty, but from their absence, that we should be warranted in ascribing to defective action of the kidneys the accumulation of that excrementitious matter in the system. If the blood was manifestly surcharged with lithic salts or their equivalents, while none such escaped in the urine, then, indeed, we should have reached the end of our inquiry in full assurance that the kidneys were the very matrices of gout. But it is not so in reality; and the most we can venture to assert is, that the renal functions, in common with others, are secondarily affected by the cause, whatever it be, of the gouty diathesis.

I think it the more necessary to insist on this point, as it is one on which so acute and lucid a reasoner as Dr. Holland appears to have fallen into error. "The kidneys," he says, "are evidently the organs of the body upon the disordered or deficient action of which depend those changes in the circulating fluids which have the closest relation to all the phenomena of gout." He would, I think, have been nearer the truth if he had said that the kidneys are, of all organs, those whose secretions afford the most faithful and the most readily discernible evidence of the changes aforesaid.

However intimate the connection between the gouty and the lithic acid diathesis, evidence is yet wanting to establish their actual identity. If the *materies morbi* we are in search of was nothing else than lithic acid, we should naturally expect to find every considerable development of that product followed by a gouty paroxysm. But this is notoriously not the case. It is no uncommon thing to find the urine constantly loaded, during a long period, with lithic acid sediments, without the occurrence of a single gouty symptom; while on the other hand, it is known that the gouty paroxysm sometimes occurs without the existence of an excess of lithic acid in the urine. Instances of this kind, occurring in asthenic forms of the disease, have been mentioned by Dr. Todd in the Croonian Lectures for the year 1843:—"I have remarked," he says, "a peculiarity belonging to most of the cases of this kind that I have met with—namely, that the urine does not exhibit the abundant precipitate of lithates which so often accompanies the gouty paroxysm. In some instances there was no precipitate at all; and in others it was very slight. And the specific gravity of the urine was rather below than above the ordinary standard, indicating that no excessive quantity of either ureaor lithic acid was held in solution."

The gouty poison, then, is not identical with lithic acid, but is so near akin to it that the chemical and pathological characteristics of the latter may probably yet serve as indices to guide us to the discovery of the former.

"Organic chemistry," says Dr. Holland, "has taught us how readily the elements out of which all animal matter is formed are displaced from one combination and enter into others; and how very slight, frequently, are the differences, indicated by analysis, between substances eminently noxious to the system, and those indifferent or beneficial to it. We owe, further, to recent experiments the explicit proof of what simple observation had partly shewn before—the remarkable effect upon the whole mass of the blood of minute quantities of certain matters brought into the circulation,—leading to the inference of analogous effects from an increased proportion of one or other of its principles accumulating or being unduly retained in the body. * * These circumstances, now familiar to us, do certainly not identify the material cause of gout with any of the animal excretions just named [lithic acid, urea, the lithic or purpuric salts, &c.]; but they tend to concentrate our views towards them, and give a much more specific direction to future research. The assured connexion of the gouty with the calculous diathesis,—the chemical nature of the concretions and deposits in the former,—and the evidence that these deposits often become in part a substitute for the more active forms of the disease: all concur in further sanctioning the same general view. If we cannot affirm that urea, the lithic acid, or other animal compounds circulating in the blood, give cause to the phenomena of gout, under the most cautious reasoning we are at least entitled to assume, with some confidence, that these matters secreted from the kidneys *are the equivalents to gouty matter present in the system,*—that they have certain proportion of quantity to each other,—and that upon their balance depend all the essential characters of the disease,—its modifications being determined by various causes: some of them topical, some belonging to general functions implicated in the effects of this common cause."

I particularly invite the reader's attention to the words above printed in italics. They imply that the morbid development of lithic acid and its salts may be due to the presence of some principle, altogether unlike them in sensible properties and chemical composition.

And now we may proceed to deal with the special object of this paper, which aims at determining the primary seat, and the essential nature, of the disease in question. To this end I shall succinctly narrate the course of induction whereby I arrived at those views which I desire to recommend to the candid examination of my professional brethren.

Having endured innumerable visitations of gout, and having had recourse to a variety of medicaments, some of which were fearfully destructive to my general health, I at last set about watching attentively the method which nature herself adopts for the cure of this disease. Thus it frequently happened, during my forty years' conflict with my hereditary malady, that I submitted to the old plan, of patience and flannel, leaving the disorder to run its course and wear itself out by its own violence. On several of these occasions I was attacked with sickness and vomiting, accompanied by acrid bilious discharges from the bowels; and these evacuations were followed by immediate relief as to every local and constitutional symptom. Sometimes the result was an entire cessation of the paroxysm: at other times the alleviation was more partial; but repeated experience convinced me that the degree of relief obtained was always proportioned to the copiousness of the bilious evacuations. Pursuing this hint given me by nature, when the spontaneous diarrhœa has been too scanty I have assisted it with five grains of calomel. These in a few hours produced copious bilious discharges: the gout departed, and I was well again.

The conclusion forced upon my mind by these facts, recurring again and again during a period of so many years, is, that not to the stomach, or the kidneys, or to the impaired functions of any other viscus than the liver, is the cause of gout ascribable.

In corroboration of this view I may appeal to the character of all those medicaments which at various times have been held in estimation as specifics against gout. One property is common to them all—namely, that of strongly stimulating the hepatic functions. The *eau médicinale*, which was introduced into this country about twenty years ago from France, was a remedy of this class. It was sold in one-drachm bottles (this was the dose), and its effects were certainly very remarkable: frequently removing the most painful attacks of gout in one night. The composition of this potent nostrum long remained a secret: it was conjectured to contain white hellebore; and I recollect the physicians of the Westminster Hospital prescribing a vinous infusion of the latter, in one-drachm doses, with great success, as a substitute for the eau médicinale. The revived use of colchicum or meadow saffron, which I believe to be the essential ingredient in the eau médicinale, has put us into possession of an invaluable antidote to gout;—but how does this colchicum act beneficially? Assuredly not on the stomach, which it nauseates,—assuredly not on the heart or circulation, which it distresses: but it acts on the secretions of the liver; and long personal experience has taught me that until the functions of that organ are called into vigorous play, the colchicum is worse than useless.

Latterly it has been my practice to use colchicum in combination with other medicines: when I was in the habit of taking it singly, my dose was generally about sixty drops of the wine of the seeds, repeated every six hours. After three or four such doses the bowels were acted on; the evacuations had the odour of the colchicum; deeply tinted, scalding bile was passed, and I was well, for I needed no more.

Now, if a spontaneous evacuation of bile operates critically to the relief of the gouty paroxysm; if five grains of calomel produce relief; if just so much colchicum or other medicine produces relief as is sufficient to cause a copious discharge of bile, then is it demonstrated that the diminished or altered state of the hepatic secretion, which is always a concomitant of gout, is not to be classed among the secondary phenomena of that disease, as pathologists have hitherto invariably supposed.

Let A and B be any two phenomena whatever; and suppose that B is never found except in company with A, then will there be reason for concluding either that one of the two is the cause of the other, A of B, or B of A, or else that both are parallel effects of some third principle. But suppose it be found that, whereas B never presents itself unaccompanied by A, yet A may exist without B, and that when both are present, the removal of the former is invariably followed by the disappearance of the latter, then it will be manifest that A is the cause of B.

The correctness of this abstract reasoning will, I presume, be admitted without question. To apply it to the subject of our present inquiry, we have only to substitute for A and B, the phrases "impaired functions of the liver," and "paroxysm of gout."

No writer that I am aware of has ever propounded, or even surmised, the doctrine that the proximate cause of gout is a functional disorder of the liver; and I cannot overcome the astonishment that possesses me when I think that it should have been reserved for me to make such a discovery. The principle, when once divulged, appears so plain and obvious, that it is wonderful it should have been overlooked so long. Such has been the feeling expressed by several of my professional brethren to whom I have communicated my views. Seldom have my conclusions failed in such instances to receive a prompt and full assent, and to elicit from each of my hearers the exclamation, "How is it possible I never thought of that before?" But the history of science is full of examples, showing how inquirers have for ages been shut out by the filmiest barriers from the acquisition of precious truths.

The derangement of the liver which always accompanies the gouty paroxysm, and manifests itself by unequivocal signs, such, for instance, as the pale colour of the fæces, is too obvious to have escaped notice. Accordingly, writers on the disease have constantly adverted, more or less prominently, to this pathological fact; but they have all failed to assign to it the position it really occupies in the train of symptoms. The tendency of their speculations has generally been to consider the disorder of the liver as consequent upon that of the stomach, whereas the converse doctrine is far more consonant with observation and with physiological principles. Acidity in the stomach is an unfailing element in the gouty diathesis. Now such a condition of that organ may, undoubtedly, react on the liver, and impede or vitiate its secretions. On the other, we know that a very important office performed by bile is the neutralization of the free acid, which is always developed in the stomach during healthy digestion, and is, therefore, a constant ingredient in chyme; only assuming a morbid character when it is excessive or otherwise abnormal. Hence, given two coexisting facts—acidity of stomach, and deficiency or faulty composition of bile—it will be natural to surmise that the former is the effect of the latter, and nothing less than specific proof could justify our adoption of the opposite conclusion.

It is a fact of great importance to the decision of this question, that, however the administration of antacid medicines may alleviate the heartburn and the other distressing effects of acidity in the primæ viæ, such remedies never rise above the rank of palliatives in the treatment of gout. They have not the least efficacy in restoring the healthy action of the liver; whilst, on the other hand, whatever accomplishes that object never fails to remove every other dyspeptic symptom likewise.

The liver, then, is the *officina* in which is elaborated the *materies morbi* on which the whole train of gouty symptoms are dependent. What may be the precise nature of that poison I do not pretend to determine. That remains an interesting subject for future inquiry, to which I may venture to hope that I have given a fresh impulse and an increased prospect of success, by defining its proper point of departure, and the direction it should take. The one new leading fact which I affirm as demonstrated, is sufficient to indicate very distinctly the mode of treatment which offers the only rational hope of removing the gouty diathesis, and also to explain the success which has partially attended the various empirical methods which have been adopted for the cure of the disease.

The main object to be pursued towards the effectual cure of the gouty paroxysm, by the removal of its immediate cause, is the restoration of the natural functions of the liver, as indicated by a copious discharge of bile through the bowels. This object may be attained, more or less promptly and sufficiently, by the administration, either of calomel or colchicum, or of some other potent deobstruent of the hepatic system. But here, as in other instances familiar to the minds of my readers, the principle of combining analogous remedies will be found strikingly advantageous. My own practice has long been to rely exclusively for the cure of gout on the following prescription:—℞. Hydr. Chlorid. Ext. Colchici Acet. Ext. Aloes purificati aa. gr. j.; Pulv. Ipecac. gr. ii. M. et fiat pilula quartis horis sumenda.

Two or three of such pills are generally enough to produce a considerable disgorgement of the liver, which I then assist with one or two doses of the compound decoction of aloes. By this time the gouty paroxysm has either ceased, or there is a marked subsidence of all its distressing symptoms. The pills may then be administered at longer intervals, varying from eight to twenty-four hours, according to circumstances.

The treatment I have above described possesses the cardinal and paramount requisite of being effectual to the end proposed. In addition to this, it is important to know that the combination of calomel and aloes with colchicum, while quickening and corroborating the specific action of the latter on the liver, seems also to neutralise all the noxious properties of that hitherto formidable medicine.

In conclusion, I repeat, that what is called a fit of gout, is only a peculiar manifestation of a functional disorder of the liver; and that whatever brings about a free evacuation of bile puts an an end to the gouty paroxysm.

Parliament Street, Aug. 5, 1848.

ANTICIPATION OF THE

VIEWS OF REINHARDT

ON THE

EXUDATION CORPUSCLE,

TOGETHER WITH SOME PRELIMINARY OBSERVATIONS ON

EXUDATION AND THE ELEMENTARY FORMS OF MORBID PRODUCTS.

By Andrew Clark, M.D.

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Part First: *Prolegomena.*

Previous to the introduction of the microscope into pathological research, the sensible results of inflammation,—the physical manifestations of its presence,—the conditions of their development,—and their relations to each other, were but imperfectly known and understood. The employment of that instrument enabled pathologists to determine, with more or less accuracy, the conditions under which inflammation occurred, and to describe with exactitude the organic forms assumed by, or developed in the exudation considered to be one, and the principal one, of its purely physical results. Microscopic investigation further proved that *exudation*, though an ordinary concomitant or effect of the morbid conditions understood by the term inflammation, occurred likewise under other conditions essentially different from those with which that term is customarily associated: it induced pathologists to question the integrity of this indefinite term—to examine more narrowly the conditions essential to the performance of healthy nutrition—and to consider the *exudation* of a fluid plasma as the great starting point of their investigations into the nature and structural relations of morbid products.

Now, though in point of detail these views and discoveries have increased our knowledge, in point of theory they have failed to remove that obscurity in which the subject is still involved. They exhibit to us the fact that certain conditions of an organ are followed by a fluid interstitial exudation, which, under one set of circumstances, is said to develop fibrous, under another cellular forms; but they fail to exhibit the nature and relations of these conditions to their apparent effects,—they throw little or no light on the ultimate cause of this process, and leave the primal question of development unexplained.

I do not here refer to the discovery of any supposititious unital cause of that series of morbid states understood by the term inflammation, or of other morbid states essential or accidental antecedents of exudation. I do not believe that for this or any other series of organic phenomena *one cause* can be assigned: since progressive experience confirms us in the belief that there is no single event in the economy of nature, but what is accompanied by a plurality of conditions, or dependent on a plurality of causes essential to its development. Moreover, the knowledge of *causes*, in the stricter acceptation of the term, is, we fear, too abstract and profound for the comprehension of our still narrow and fettered minds.* We must admit, indeed, that to know the *conditions* necessary for the development of any phenomenon, and the links by which isolated phenomena may be associated into general laws,—to be able to foretel with certainty the occurrence of any event from the presence of circumstances which ordinarily accompany it, and arbitrarily to produce these events by correlation of the circumstances under which they are developed,—to be able to infer from truths known, truths analogous but unknown, and safely to employ these in the ultimate construction of hypothesis or theory, will conjointly afford us as much insight as we may ever hope to obtain into the intimate nature of vitality, and the modifications of its sensible manifestations. But even were it otherwise—were there no such limits to our knowledge,—the mode of the operation of the causes of disease,—the determination of the nature of morbid actions,—and the genesis or evolution of morbid products, constitute problems, each of which is surrounded by too much obscurity, and dependent on too many complex conditions, to be discussed in abstract at a time when the light of truth is shining with just sufficient brilliancy to show us the dark and shadowy outlines of what we have still to learn.

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* I refer here to the present as one of other transitory phases of man's psychological development.

Reverting now to the more peculiar subject of these observations, and waiving for the present the term *inflammation*, I have said that the microscope has enabled us to determine with more or less accuracy the conditions under which abnormal nutrition occurs, and to describe with exactitude the organic forms said to be assumed by, or developed in the exudation considered to be its chief physical result. To the conditions of this process of exudation, however, I shall not now refer, and to its sensible results I shall advert only in so far as they may be found to bear on the subject under consideration.

The essential condition of nutrition is the constant transudation through the coats of the capillaries of a healthy liquor sanguinis (plasma), and its absorption and assimilation by the adjacent tissues. In the regular performance of this function there is no overplus—no waste of material, and only so much plasma is exuded as is capable of being assimilated and absorbed. In the healthy liquor sanguinis there is the susceptibility of being acted upon (potentiality); in the cells or persistent nuclei of adjacent textures, the power of acting upon the exuded plasma (transition); and between both a delicately balanced relation, which, in its continuance, gives development to the negative condition—health (nutrition). When exuded in too great quantity, or when, the quantity being normal, the tissue to be nourished is incapable of fulfilling the function of absorption, the *plasma* collects, is infiltrated through the histological elements of the part, where, becoming the source of new formations (*pathological epigeneses*), it is denominated a blastema. This blastema is originally fluid; but under the first impetus to development, it becomes more or less solid, and either concretes by direct solidification into an imperfect fibrous tissue, or gives development, it is said, to various forms of cells. The fibrillated products of the blastema generally retain their primal form; but the cellular may either remain in that condition or attain a higher phase of existence by becoming developed into elementary textures. Under either or all of these conditions there is a fluid residuum (serum), which, if not removed by the absorbents, collects in cavities, forming dropsies or cysts, or is infiltrated through adjacent tissues, producing œdema.

The various organic forms *supposed* to arise in blastemata, and considered to be the unequivocal *products* of exudation,—in other words, the elementary forms of morbid structures, —have been already accurately described,* and are now pretty generally known. Admitting, *for the present*, the correctness of that view which considers the elementary forms of morbid products to be the direct results of exudation, they may be judiciously considered under three heads, each of which will represent in itself the *type* of a distinct phase of organic development, thus:—

Granular products of exudation.
Fibrous " "
Cellular " "

Without reference to the theory of the origin of these elementary forms, I have been accustomed, in my lectures, to subdivide these heads or genera into certain species and varieties of the primary arrangement, of which the following table will afford a rough illustration:—

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* I mean their physical characters, exclusive of their chemical composition and morphological relations.

[*]1. *Granular products of exudation.*
  - 1st phase of development:—
    1. Elementary molecules.
    2. Granules of evolution—plastic granules.
    3. Granules of disintegration—aplastic granules.
    4. Fatty granules.
    5. Earthy granules.

2. *Fibrous products of exudation.*
  - 2d phase of development:—
    1. Fibrillated tissue.
    2. Molecular fibre.
    3. Beaded fibre.
    4. Solid fibre.
    5. Nucleated fibre.

3. *Cellular products of exudation.*
  - 3d phase of development:—
    1. Corpuscle of evolution.
    2. Pyoid corpuscle (Bennet and Lebert).
    3. Exudation corpuscle.
    4. Pus corpuscle.
    5. Tubercular corpuscle.
    6. Xanthoid[†] corpuscle.
    7. Cancerous corpuscle.
    8. Fluid fat globule.
    9. Solid striated fat globule.

The physical characters of most of the products just enumerated are already accurately known; but their exact mode of genesis and development being still matter of dispute, and their morphological relations remaining hitherto unexplained, the mere determination of these organic forms, and our imperfect acquaintance with the exact chemical and vital conditions of exudation as a modified nutrition, fail to throw any decided light on the nature of diseased action. Attention has been recently directed, therefore, to the *composition* and *chemical relations* of morbid products; and the results of this new method of inquiry promise to be numerous, novel, and important. Limited as these results yet necessarily are, they tend, among other things, to show—

1. That the physical characters of blastemata, wherever their seat, and whatever the nature of their products, are almost always uniform.

2. That the difference in the composition of the solid products of blastemata is due—
   - *a.* To modified conditions (vital, chemical, or both) of the circulating plasma;
   - *b.* To the influence exerted on blastemata by adjacent living textures;
   - *c.* To chemical changes coincident with the act of development.

3. That the presence of fat is a common, if not essential, concomitant of the evolution of the products of exudation.

4. That the development of fat in previously existing healthy organisms (*e. g.* cellular lining of the tubuli uriniferi) is in many cases the only *sensible* manifestation of the presence and persistence of diseased action.

5. That the development of fat is an invariable concomitant of the *retrogressive* changes exhibited by the products of exudation and other organic forms.

6. That the development of the *cellular* precedes, in point of time and relation to the exuding surface, the development of the granular or fibrous products of exudation.

Reflection on what I have here developed as tendencies of modern research, and on the typical action of nature exhibited in the manifestation of all organic phenomena, led me about two years ago to investigate, more systematically than I had previously done, the origin and morphological relations of the elementary forms of morbid products. Through the kindness of Sir William Burnett[*] I have been enabled to continue these researches until now. To their special results, however, I am not yet prepared to give expression: in a more eligible form I may be enabled shortly to subject them to the judgement of my professional brethren. Meanwhile, I may be allowed to illustrate generally the conclusions to which these researches point. Before doing so, however, it may be necessary to state that I have been led to enter thus prematurely and generally on the subject by the perusal of a paper of Reinhardt's on the Exudation Corpuscle, first published in September 1847, but which I did not have the opportunity of seeing until a fortnight ago, when it was pointed out to me by a friend. The views developed in that paper are analogous to my own, which, in *point of publication*, have been anticipated by that histologist. The views there developed are almost identical with those which I have entertained for the last two years; and which I first promulgated in January 1847, in a series of lectures delivered before Sir John Richardson, Drs. Anderson, Allan, M'Kechnie, Stuart, and others of the medical officers of this establishment.*

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[*] I have purposely omitted from this table the following forms of morbid products:—
1. Modifications of previously existing cells.
2. Common and plastic serous effusions.
3. Earthy deposits from a mother liquid.
4. Animal and vegetable parasites.

[†] I give this name to a cell of a peculiar structure, colour, and composition, which I have met with in tubercular changes of the bronchial glands, liver, lungs, kidney, pancreas (?) and spleen.

[*] I feel it necessary here to acknowledge, formally, the many facilities which our Director-General has *voluntarily* afforded me for the furtherance of these investigations.

From one of these lectures, delivered on the second Thursday of January 1847, the following passage is extracted:—

"We see, therefore, that this body" [the exudation corpuscle] "is a common concomitant of normal morphological developments; that it occurs as a result of diseased nutrition independently of exudation; and that, in cellular and mucous membranes, its form almost always corresponds to the normal form of the cells of the part. From these facts, and from the considerations previously given, we are justified in stating that in nine cases out of ten this body *is not a new product of exudation*, but a modification merely of the previously existing healthy cells of the tissue or organ affected."

As a matter of personal justice, and in compliance with the wishes of my friends, I state these facts now; but, waiving any further discussion of claims to priority of observation, I shall revert generally to the subject of exudation, and particularly to the histological characters of what is here termed the exudation corpuscle, in my next communication.

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* Previous to the delivery of the lectures here referred to, this and other views on collateral subjects were detailed privately to Inspector Sir John Richardson, Deputy Inspector Dr. Allan, and Dr. F. J. Brown (Scholar and Medallist of University College, now of H.M.S. Howe), who were acquainted with my views as early as October 1846, and to whom I had frequently demonstrated the facts on which these views are based.

MEDICAL GAZETTE.

FRIDAY, AUGUST 18, 1848.

The opponents of the Public Health Bill have nearly succeeded in mutilating it, and of rendering it one of the abortive measures of the session. All who have reflected on the subject must know that a majority of rate-payers are generally opposed to any measure which is likely to add to the annual amount of rates. The benefit to the public is a small consideration: the real question is—Will the rates be increased? If so, the measure, *coute qui coute*, must be resisted. The Public Health Bill has offered no exception to this pecuniary rule. It has had its open assailants and its secret enemies. The former have been in a minority, and their efforts failed to do more than protract for a session, the enactment of a most useful law. The latter have worked insidiously, and had so far gained their object as to send the Bill up to the House of Lords in a form which would have effectually neutralised its most important provisions. The drainage, sewerage, and ventilation of towns, must not be optional, but compulsory. The optional system has been tried, and failed; and if it be intended that there should be an efficient measure of sanitary reform, the clauses must, under certain equitable limitations, be compulsory. This attempt to defeat the provisions of the Bill, will be best understood by reference to the following extract from the *Times*:—

"An alteration in the bill had been introduced in the Lower House by the opponents of the measure, which precluded its application to any town unless 'one-tenth of the inhabitants rated to the relief of the poor in any district should have petitioned to be brought under its operation. This would be in effect to nullify the provisions of the bill. What chance would there be of obtaining 20,000 signatures in London, 3,000 in Manchester or Liverpool, 2,000 in Bristol? Consider for a moment the powerful leverage brought to bear against the obtaining of one single signature to such a petition. The opulent ratepayer, whose payment of rates would be disproportionately increased, would with difficulty be brought to sign a warrant for levying money on himself. He lives in a wholesome part of the town. There is no fetid smell from drain or sewer on his basement story. Why should he, in his well-ventilated, well-cleansed dwelling, pay a large sum for the purification of the filthy quarters of the town inhabited by the nameless poor? The poor again—it is the old story—are under the influence of their fellow-townsmen to an indefinite extent. Who can tell how many patrons would be displeased, how many customers driven away, how many employers disgusted, by the poor man's signing such a petition? Again, all the evidence goes to shew that it is not the destitute, the wretched, and the squalid who are most keenly alive to the necessity of increased cleanliness. The sanitary inquiries all tend to shew that poverty, filth, and apathy, reproduce each other in a circle."

It is somewhat extraordinary that the Government should have assented to such a nullification of the new measure; but it can excite no surprise that the House of Lords, the members of which are entirely removed from rate-paying influences, should have endeavoured to avert the evil consequences of the amendment. At the suggestion of the Bishop of London a proviso was added, to the effect that this option on the part of the ratepayers should be taken away whenever in any town the deaths from zymotic diseases, on an average of three years, should have exceeded the average of 20 per cent. of the total deaths. In the debate on the Lords' amendments, Lord Morpeth proposed—

"That all the words in the clause relating to particular diseases should be omitted, and their place supplied by other words, which would provide that where the deaths in 'any city, town, borough, parish, or place' should amount to 23 to a thousand of the population for such 'city, town, borough, parish, or place,' the General Board of Health might direct inquiry to be made for the purpose stated in the clause. The proportion of 23 to 1000 would afford security that the act would not be put into operation except in cases where there was such a manifest amount of unhealthiness, indicated by the high rate of mortality, that no persons possessed of the ordinary feelings of humanity, would object to the application of sanitary regulations. The average of deaths for all England, according to the Registrar-General's returns, was 21 to 1000 of the population. The average in the most healthy districts—Reigate, Godstone, and Barnet, was 15 and 16 to 1000; and the average in the most unhealthy districts was 29 and 30 to 1000. When, therefore, he took 23 to 1000 as the proportion of deaths necessary to justify the application of the act to any district, it could not with justice be alleged that he had fixed upon too low an average."

Perhaps this is the best compromise which could have been made; and the only source of regret now is, that the City of London should have been excluded from the operation of so beneficial a measure.

The alteration proposed by Lord Morpeth refers to the increase of deaths from any cause; while the amendment suggested by the Bishop of London required that the increased mortality should be due to diseases of the zymotic class. As an argument in favour of his proposition, Lord Morpeth stated, on the authority of the Registrar-General, that the fatality of the diseases specified by the Bishop of London would not always afford a fair criterion of the sanitary condition of a district.* We agree in this view; but the argument has a wider application than his Lordship appears to have contemplated at the time of making this statement. A document, which will be found elsewhere,* has been going the round of the public journals, setting forth, in an alarming point of view, the great *increase* of deaths from zymotic diseases during the last quarter. The *decrease* of deaths from other causes is not published; and the public are left to infer, from this record of mortality, that the health of the metropolis is in a most unfavourable condition, and that if the Asiatic cholera should make its appearance among us, it cannot fail to spread with fatal rapidity. It is, however, reassuring to consider that this isolated document does nôt justify the terrible inference which the timid might be disposed to draw from it.

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* A large number of those who die from zymotic diseases are comprised in the infantile portion of a population which is not only the most numerous, but at the same time the most exposed to fatal specific diseases.

We have through Lord Morpeth's official announcement, the authority of the Registrar-General for asserting, that deaths from diseases of the zymotic class do not afford *a fair criterion* of the sanitary condition of a district; and his lordship's alteration of the amendment in the Public Health Bill, is in accordance with this view. At the same time we must take leave to remark, that the publication of returns of deaths which do not furnish fair criteria of the health of a population, can only be productive of mischief by unnecessarily exciting the fears of the public.†

It is long since we have had to call the attention of our readers to the various fluids which have been brought before the public as "disinfectants." The death of Colonel Calvert from fever was a practical refutation of the alleged disinfecting properties of M. Ledoyen's liquid; and when fairly put to the test, others would doubtless be found equally inefficacious. Liebig's supposition, that the entity of contagion attaches itself to certain noxious gases, and by that means propagates the peculiar disease to which it belongs, has led to the hasty inference, that if the *gases* are capable of being destroyed by an antibromic liquid, the *contagion* is also. To this we altogether demur: as a supposition it is harmless, but when it is made the basis of a theory, and carried into practice, it may, as in Colonel Calvert's case, lead to a false security. The removal of foul smells is one thing, the neutralization or chemical destruction of *contagion* another. The former, we believe, act as slow poisons, and may predispose the body to the attacks of disease: hence any safe plan by which they may be removed, must be regarded as a useful discovery. It is in this light that we are inclined to view the chloride of zinc, which has been recommended by *Sir William Burnett.* Most chemists agree that with regard to those compounds which owe their offensive odour to sulphur, the action of a solution of chloride of zinc must be limited. Muriatic acid is set free by the decomposition, and when this reaches a certain degree of concentration, the chemical action is arrested. This objection is removed by employing the metallic solution in a proportionally larger quantity, or in a more concentrated form. It has been objected to the chloride of zinc, that it was lately used for the purpose of disinfecting the sewers of Westminster, and entirely failed, as the opening of the sewers was followed by the rapid diffusion of fever in a malignant form. The report of the Metropolitan Sanitary Commissioners, upon which we have elsewhere commented,* has, however, set this question at rest. A period of *eight weeks* elapsed between the emptying of the last cesspool, and the occurrence of the first case of fever! This is, medically speaking, sufficient to show that these events could not have borne to each other, the relation of cause and effect.

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* Page 301.

† Since this was written, the Bill has passed the House of Lords, and is now waiting for the Royal Assent.

* Page 165.

Setting aside the alleged disinfecting properties of the chloride of zinc, there are results obtained by the use of this liquid which recommend it strongly to anatomists. An experienced surgeon, who was a witness to the experiment on embalming, reported in our last number,[*] has assured us that the use of the chloride of zinc according to the simple method suggested in his letter, had the effect of completely arresting putrefaction. For a corroboration of this view of the utility of the chloride in the dissecting-room, we need only refer to the evidence of Dr. Sharpey, Mr. Pettigrew, and Mr. Partridge, quoted in a letter on this subject, inserted in the present number[†].

The operation of the chloride in agriculture is less intelligible: nevertheless, the suggestion of our correspondent, that it should be employed for the purpose of arresting the progress of the potato-blight, is deserving of attention. Practice is often in advance of theory, and from what has been hitherto discovered respecting the action of chloride of zinc, useful results may be obtained in cases in which they could not have been anticipated by any *à priori* reasoning.

IT is with great satisfaction we can announce that the surgical appointments at University College have been at length filled up in a manner which reflects credit upon the Council. The dissensions which have so recently occurred, were calculated to damage the character of the College as a place of instruction; but happily these have been healed by a judicious selection of new men; and there is now every prospect that the October session will be opened under the most favourable auspices. As we announced in our number of the 28th ult., Mr. J. M. Arnott, whose high reputation as a practical surgeon is so well known to the profession, has accepted the office of Surgeon to the North London Hospital, and Professor of Surgery in University College. In making this appointment, it cannot be imputed to the Council that they have adopted the practice of "sending for strangers," or that they have selected an untried man, or one whose reputation had yet to be made. Mr. Arnott, by his long connection with the Middlesex Hospital, has become completely identified with the profession of the metropolis; and by his high standing as a surgeon, he cannot fail to perform the duties of his office with credit to himself and benefit to the pupils of the College. Upon the propriety of this appointment, and the judgment of the Council in making it, there cannot, we think, be one dissentient voice. Mr. Richard Quain takes the Professorship of Clinical Surgery; and Mr. Morton holds the office of Surgeon to the Hospital. Mr. J. E. Erichsen and Mr. Marshall have been appointed Assistant Surgeons. It was not probable that the last-mentioned appointments could be made without exciting some feeling of discontent. Every disappointed candidate will of course condemn the Council for excluding himself; but there is good reason to believe that the appointments have been made with a proper regard to the claims of pupils, and to the interests of the College. Of Mr. Marshall's qualifications we are unable to speak; but of those of Mr. J. E. Erichsen there can be only one opinion. His name has been before the profession for some years. His essays on asphyxia, on burns and scalds, and on diseases of the skin, of which the two latter were published a few years since in the pages of this journal, are sufficient to show that he is not only an original thinker, but a man possessed of a good practical knowledge of his profession.

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[*] Page 259.
[†] Page 299.

From this statement, our readers will, we think, agree with us that the Council of University College have done all that is in their power to restore harmony to the school. We feel ourselves in a position to express an unbiassed opinion on this subject, as during the late discussion we avoided making this journal an organ of party feeling, and declined allowing any personal attacks or rejoinders, anonymous or otherwise, to appear in our pages.

Reviews.

The Cyclopædia of Anatomy and Physiology. Part XXXI. Edited by Robert B. Todd, M.D. F.R.S. &c. London: Longmans. May, 1848.

We have already[*] anounced the publication of this part of Dr. Todd's important work; and we have now much pleasure in giving a short notice of its contents. These include, first, the remaining few pages of Dr. Walshe's paper on Adventitious Products, of which we have already spoken favourably. Next, we have a very good article on the Prostate Gland, by Mr. Adams, who has given a careful account of the rough anatomy, minute structure, and probable functions of this organ, together with a statement of its more common diseases, and a glance at its comparative anatomy. He has introduced a good description of that portion of the organ which, consisting of a small oval sac, is named *utriculus prostaticus*, from its constituting, as discovered by Professor E. H. Weber,[†] the true representative of the female uterus. Mr. Adams does not appear to have met with Prof. Weber's account of this rudimentary male uterus, or he would have been enabled to procure some interesting facts especially in relation to its comparative anatomy.

We are glad to find that ***Protein*** has found a friend and protector in Mr. J. E. Bowman; for although, in a supplementary paragraph appended to his subject, this gentleman feels bound to allude to the attacks which have been recently made on the independence of this substance, yet we would hope that the prominent position it is allowed to occupy in Dr. Todd's Cyclopædia will be the means of prolonging its existence. Safely lodged between the Prostate Gland and the Pteropoda, it may bid defiance to the assaults of Liebig, who, after long maintaining its existence and building up and circulating theories on the base of it, now repudiates it.

The article ***Pteropoda*** is furnished by Mr. T. Rymer Jones, who has latterly contributed largely to the valuable matter contained in the pages of this Cyclopædia. Next we have an elaborate paper on the ***Pulse***, by Dr. Guy—elaborate, at least, so far as it goes, for it is limited almost exclusively to a consideration of the circumstances by which the frequency of the pulse is influenced. Whoever, therefore, expects to find in it any account of the mode of production of the pulse, the physiological conditions upon which it depends, or the circumstances of disease by which it is so importantly modified, will be disappointed. These deficiencies are in some measure compensated by the interesting facts which Dr. Guy has brought together respecting the influence of age, sex, posture, exercise, food, and other natural causes, upon the frequency of the pulse. No one could be better qualified to treat of this part of the subject than Dr. Guy, whose interesting observations on the variations of the pulse have at different times been presented to the profession.

The best and most scientific article in this number of the Cyclopædia, is unquestionably the paper by Professor Vrolik, on the ***Quadrumana***. To comparative anatomists, this essay will, we have no doubt, be very acceptable, although to the general reader it will be somewhat devoid of interest, from the dryness of anatomical detail of which it in great measure necessarily consists. Following this are papers by Mr. W. Brinton; one on the *Radial and Ulnar* arteries, the other on the *Radio-Ulnar* articulations. The number terminates with the first part of a paper by Dr. G. Johnson, on Ren, the notice of which we will defer until its completion*.

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[*] Vol. xli. p. 1042.

[†] Zusätze zur Lehre vom Baue und den Verrichtungen der Geschlechts-Organe. Leipzig, 1846.

From the above summary it may be inferred that we entertain a favourable opinion of the manner in which this useful Cyclopædia is now progressing. We regard the contents of the present number as in no way inferior to those of its predecessors, or wanting in the marks of talent and energy which have hitherto been displayed in the work.

An Elementary Treatise on Crystallography. By M. V. Regnault, Member of the French Academy of Science, &c. Illustrated with 108 wood engravings. 8vo. pp. 70. London: Baillière. 1848.

This is a short, but scientific, treatise on crystallography, from the pen of a man who has acquired a high reputation as a chemical philosopher. The principal novelty which it presents, consists in the beautiful illustrations of crystalline forms, which are delineated in white lines on a black ground. M. Regnault has succeeded in making the subject of crystallography more simple than many preceding writers. He divides crystals into six systems, the greater number of described forms falling under the regular system; and these are made still more extensive by the introduction of numerous compound forms. Two of the forms of the regular system are new to us, at least in name, namely, the *tetrakishexaedron* and the *triakisoctohedron*. There are engravings of these forms which render them easily intelligible; but it is to be lamented that no other than these sesquipedalian names can be found for them. The illustrations are more beautiful than any which we have yet seen in a work on crystallography; and we would especially point to fig. 80, at page 58, representing the growth, by transference, of the crystals of alum. The subject is ably, but concisely, treated. Mathematics are but sparingly introduced, which we consider a great recommendation, as the essay is intended for students; and the working out the complements and supplements of angles of crystalline bodies, which a man is never likely to see, is, to say the least, a most profitless labour. The pamphlet is in such a form that it will admit of being bound up with any of our standard popular treatises on chemistry.

The Treasury of Natural History; or, a Popular Dictionary of Animated Nature. Illustrated by upwards of eight hundred figures on wood. By Samuel Maunder. 8vo. pp. 812. London: Longmans. 1848.

This is the fifth of the series of Treasuries brought out by Mr. Maunder,—all of them most useful as works of reference and instruction. The present volume is not inferior to those which have preceded it; and although there is not much originality in its contents, it has, in an easily accessible form, all the advantages of an extensive compilation from the best writers on zoology. The natural history of animals is here given in a series of short articles, arranged alphabetically, and often illustrated by well-executed wood-cuts, engraved by Branston. The English names of the animals are made the basis of the arrangement,—a plan which will be found best adapted for the purposes of ready reference; while the work is preceded by a classification of the animal kingdom, including its orders and genera, the characters of which are fully described alphabetically. Cuvier's arrangement has been here followed, with some alterations which modern researches have shown to be necessary. Mr. Hepburn has contributed an essay on Practical Taxidermy, or the art of preparing and preserving specimens of animals; and the volume is completed by a glossarial appendix, in which the beginner will find a full explanation of the meaning of all scientific terms connected with zoology. Mr. Maunder's Treasury of Natural History is intended rather for the public than the profession; but it is a cheap and useful encyclopædia in its own department: and it will be found, by all zoological students, most serviceable as a work of reference.

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* Part XXXII. has just reached us, and will be shortly noticed.

Medical Trials and Inquests.

HEREFORD, AUGUST 3, 1848.

(*Before Mr. Baron* ROLFE.)

HAWKINS V. CLUTTERBUCK.

THE LAW REGARDING DEEDS OF APPRENTICESHIP—ALLEGED EVASION OF THE STAMP ACT.

MR. Godson and Mr. Gray were counsel for the plaintiff; Mr. Alexander and Mr. Whitmore for the defendant.

This was an action of covenant against a surgeon for improperly dismissing and refusing to educate an apprentice. A question on the construction of the Stamp Acts arose under these circumstances:—It appeared in evidence that the plaintiff, who was the uncle of the apprentice, agreed at first with the defendant to pay him £250 for the board, lodging, and education of the apprentice, for the period of five years, but that before the apprenticeship deed was executed, he suggested, in order to avoid the stamp duty on the full sum of £250, that £90. 19s. should be appropriated for the education simply of the apprentice, and that the deed should specify that sum and that object, and notes for £150, which should be the amount appropriated for the board and lodging of the apprentice, should be given to the defendant. This was done, and the apprenticeship deed was accordingly drawn up with a stamp only for £99. 19s. fee, and stating the consideration to be merely the instruction of the young man, who entered upon his apprenticeship, and after five months was dismissed by the defendant on the ground of improper conduct. Upon these facts,

Mr. ALEXANDER objected to the reception of the apprenticeship deed in evidence, inasmuch as the 8th Anne, chap. 9, secs. 35 and 39, provided that an apprenticeship deed should not be received or be available in any court or place, or for any purpose, which did not truly state the full amount of money, or consideration directly or indirectly given. Here the real amount of consideration was £250, and the insertion of £99. 19s. was an evasion of the statute. The 55th George III. chap. 84, merely specified the amount of the duty to be paid, and did not otherwise affect the provisions of the act of Anne. "R. v. Baildon," (3 B. and Ad., 427); R. v. Evershall," (4 Ad. and El., 498); and "Jackson v. Warwick," (7 T. R.,, 121), were quoted in support of this objection.

Mr. Godson and Mr. Gray having been heard on the other side,

His LORDSHIP said—I think I must receive the deed with liberty to the defendant to enter a nonsuit. My opinion is, that it is receivable on this ground—I think that while the matter is *in fieri* the parties may separate the sum to be paid if they think fit. If there had been £250 agreed to be given for that which the party covenants to supply, that would have been within the statute. Suppose they had met and agreed that the apprenticeship should be only for two years, but that they should afterwards go on, on the same terms for a longer period, they might agree for a fee for the two years. It is said that the statute is evaded, —that word is quite improperly used. That question came often before the law officers of the Crown when I was Solicitor-General. The Stamp Act is not intended to fetter the proceedings of parties; and if a party so act as not to be hit by it he has a right to do so. If a party has a claim for £100, he may take £99. 19s. He is in a different predicament from what he would have been in if he had inserted all. Suppose he had two indentures, one for providing for meat, and another for teaching, there would have been no objection.

The case, and two other actions arising out of the same circumstances, which, however, were not for trial here, having been ultimately compromised, being referred to his Lordship while the jury were deliberating, and at once disposed of, to the satisfaction, apparently, of both sides, the above point cannot now be brought before the Court above.

COURT OF EXCHEQUER.

(*Sittings in Banco.*)

THE LAW REGARDING BONDS NOT TO PRACTISE.—ARE THEY BINDING AFTER THE DEATH OF THE PRACTITIONER?

DEMURRER PAPER.

HASTINGS V. WITLEY.

THIS was an action by the executors of Kendrick Watson, deceased, in which they sought to enforce the penalty of £1000 for the breach of a bond, entered into by the defendant with the testator on his becoming his assistant, wherein he bound himself not to practise in Stourport as a surgeon at any time after the expiration of the term of the engagement without the consent of Mr. Watson. The pleadings in the case raised the important question, whether such a bond was binding after the death of Mr. Watson.

Mr. Gray appeared for the plaintiff, and submitted that the plea was bad in substance, and that the bond was broken by the defendant setting up after the death of Mr. Watson.

Mr. Baron Parke.—The cases have got as far as to say that such a contract is good for the life of the obligor; but we have not got so far as to say that it shall be binding for ever.

Mr. Hill, for the defendant, argued, that the bond was too large, and therefore invalid as being in restraint of trade. The obligor being dead his consent cannot be obtained, and the defendant would be restrained for ever.

The Court, however, was of opinion that the penalty was incurred. The defendant bound himself not to practise at any time without the consent of Mr. Watson, and the latter clause did not restrain the first, for it was open to the defendant at any time to have obtained that consent, and he may even now obtain a release from the executors of Mr. Watson. The plea was therefore bad, and the plaintiff was entitled to judgment.

Judgment accordingly.

HERTFORD ASSIZES.

Hertford, July 14.

(*Before Mr. Justice* Maule.)

THE LAW REGARDING INTRODUCTIONS TO PRACTICE.—DEEDS OF PARTNERSHIP.

ROBARTS V. BRYAN.

Mr. Wells and Mr. Clarke were counsel for the plaintiff; Mr. O'Malley and Mr. Sanders appeared for the defendant.

This was an action of covenant brought to recover damages from the defendant for the alleged breach of certain clauses in a deed for the dissolution of a medical partnership between the parties to the action, the foundation of the plaintiff's action being, that the defendant did not, as he covenanted to do, introduce the new partner of the plaintiff to all the patients of the old firm, whom he (the defendant) was in the habit of attending at Slough, where he carried on a branch of the practice, while the plaintiff did the same at Burnham. After several witnesses had been called for the plaintiff in support of the breaches alleged in the declaration, and subjected to cross-examination on behalf of the defendant, it appeared that he had, in fact, introduced many patients to the plaintiff's partner, and that of those whom he was charged with having omitted, many were of a most unprofitable class, being chiefly paupers. After the case had been kept up some little time, against the opinion of the learned judge, and of the jury too, the learned counsel for the plaintiff submitted to a general verdict for the defendant on all the material issues.

REWARD OF SCIENCE IN ENGLAND.

The door-keeper of the House of Commons receives £74 per annum more than the Royal Astronomer or the Principal Librarian at the British Museum; and the Board-Room porter at the Admiralty enjoys precisely the same stipend as the third Assistant Astronomer Royal!—*Athenæum.*

Correspondence.

CHARGE OF ALLEGED MALAPRAXIS IN MIDWIFERY—TRIAL AND ACQUITTAL OF W. H. FLINT. — REMARKS UPON THE EVIDENCE.

Sir,—Having been one of the medical witnesses to the post-mortem examination of Elizabeth Riley, of High Sheen, Staffordshire, and for the death of whom William H. Flint, of Longmore, was tried for manslaughter at the Stafford Assizes on the 25th ult. (he having attended her professionally in her accouchement), and there acquitted, I beg leave to forward you a statement of the appearances as observed at the autopsy, as also of the principal facts elicited at the coroner's inquest and Assizes, and the points raised on the prisoner's behalf; the whole case appearing to me highly important to the profession generally, both with reference to the practice pursued, and to the questions of medical jurisprudence raised by the prisoner's counsel and the judge on his behalf.

The evidence of the husband, sister-in-law, and nurses, proved that the deceased, being in good health, was seized with pains of labour at about 11 A.M. on the 28th of March; that she became worse about midnight; that the prisoner was sent for, and arrived at about 2 A.M. of the 29th; that, after talking some time, he made an examination. Upon being asked by the nurse if it were all right, he did not answer. On the second examination, made soon afterwards, he said it was a cross birth, and he must turn it. On the third, he said he had turned it, and it was all right. He then went to lie down, and gave directions to give her a little gruel or brandy, and to let her sit, walk, lie down, or do as she pleased.

Between 7 and 8 o'clock he got up: saw her again before he took his breakfast; examined her, and sent for his instruments. About 9 o'clock he again went into the room, and from this time, for about an hour and a half, he was using the instruments, or, at least, had them and his hands under the clothes. During this time he was repeatedly asked if he would have further advice; to which he answered in the negative—to the husband, saying there was no necessity,—and to the sister-in-law and nurse, that it would be over in five, ten, or fifteen minutes. The deceased began to moan soon after the prisoner entered the room. At length, about half an hour previous to her death, she appeared to sink, having convulsive movements of the eyes, vomiting, and difficulty of breathing. The nurse then told him the deceased was dying. He said "No."

Sarah Mellor, the third witness of those present during the accouchement, went into the room about 11 o'clock, and was asked by the prisoner to assist him. Before this time, the nurse's brother and the husband of deceased came to the door, and asked the prisoner if he would have any more assistance, to which he answered, "I have brought one, and shall have another in four minutes, —nay, in two: I shall want no more help." The nurse then said, "Let us look." He answered, "No; I can't have her exposed." The nurse then said to Sarah Mellor, "She is dying; turn the clothes off;" and that, when she did so, she saw "*such a sight!*" (this was said with a tone and expression of pity and horror); and, when told to explain, she said there was a leg and foot, and arm and hand, and something like intestines, hanging out nearly a foot; and, in her cross examination, added that she never saw anything to compare to it.

Sarah Mellor, in her evidence, stated, that when she went into the room, the prisoner was then pulling at the hand and foot, which she detected on going to assist him as he desired. She then told him he was doing wrong, it being impossible to bring a child into the world by the leg and arm, and then added, "She is dying." The prisoner then said, "My credit is gone;" and she replied, "And her life is gone." After this the deceased survived about ten minutes, and died about 12 o'clock. The prisoner must therefore have been using manual force and instruments for at least two hours, he having commenced at 9; and, as Sarah Mellor gave evidence that he was still employing traction when she went in, soon after which she died, and the sister-in-law said this took place about noon, the great probability is, that it was some time past eleven when Sarah Mellor arrived. When the prisoner was mounting his horse, some time afterwards, to leave, the last witness, Sarah Mellor, said to him, Dr. Flint, tell me one thing—"You said you brought forth a child and put it away; it is no such thing, for you have not." "What was that substance, then?" he asked. She said, "You are a doctor, and ought to know; I never saw any thing like it, but I think it was a part of her womb, and her bowel skin." This she had previously found under the chair upon which he sat, and had washed and replaced it within the body. She further deposed to having found an open penknife on the bed, covered with blood, and for which he had previously inquired. Another witness, Martha Swindells, deposed that she called upon the prisoner at 4 P.M.; and that, in answer to her questions, he said she, the deceased, was confined of one child, and that another would have been born in a few minutes had the mother lived; and that he could not account for her death, for that he had no more thought of her death than of his own.

Post-mortem examination, as made by Mr. Simkins, of Alstonfield, and in which he was assisted by Mr. Goodwin, of Longnor, and myself. The deceased was fleshy, and well-formed; the pelvic cavity ample; the right hand and left foot of the fœtus protruded; on the latter, near the heel, was a large and deeply incised wound; and with these was seen a loop of intestine, which had passed through the lower part of the uterus: near these, and just within the orifice, were found the piece of membranous substance, as referred to by Sarah Mellor, of about the size of a small glove, and composed of mucous membrane, with muscular fibres; as if a portion of the vagina and uterus had been torn away; as also a piece of intestine, of from fifteen to eighteen inches in length, with dust and pieces of chaff upon it, and which had evidently been replaced within the cavity by the prisoner, the nurses not having seen it. The perinæum was destroyed; the orifices of the vagina and rectum being externally continuous.

On opening the abdomen the left shoulder and dorsum of the fœtus were placed obliquely to the anterior, and covered by membrane only—the anterior inferior portion of the uterus being ruptured: the head was lying in the left superior side of the abdominal cavity, having protruded through *an extensive laceration or rupture of the uterus* in that position.

The uterus was then opened, the fœtus removed, and the umbilical cord, which was perfect, divided; the placenta was in the superior part of the uterus, and firmly and entirely attached. The fœtus was full-grown, and of healthy appearance, but much mutilated; the right humerus was fractured near the shoulder,—there was dislocation of the elbow-joint,—a punctured wound above the clavicle,—a deep one in the axilla; and there were several wounds upon the cranium—two of them having passed through the bone.

In the posterior walls of the uterus were also found several wounds, evidently instrumental, as were of course those upon the fœtus—some having passed through the uterus, and others being more superficial.

Through a large rent or laceration at the anterior inferior part of the uterus—now found—it was that the loose intestine, torn from its peritoneal attachments, protruded, —in short, the abdominal cavity throughout shewed proofs of extraordinary instrumental and manual violence: as the nurse said—"I have never before seen anything to compare to it, and I trust I never again shall."

The direct examination of Mr. Simkins elicited the following answers:—That the removal of the portions of the intestines would cause death,—that the ruptures of the womb would also cause death,—that, taken altogether, they would cause death more speedily,—that in all probability the presentation was a cross one,—that the birth could not ensue in such a position,—that instruments were not necessary,—that a skilful practitioner would have endeavoured to make it a foot presentation: and that under the circumstances this might have been effected with ordinary skill and care. Upon this the learned judge remarked—"How can any man tell that unless he was present at the time? It might have depended upon many things." To this dictum permit me to remark, *en passant*, that, assuming the original presentation to have been a foot and hand, in the apparently strong and well-formed woman whom we saw, and at the period when the prisoner pretended to have effected version, I for one believe that had the foot been brought well down the mother's life would have been saved, and very probably the child's also.

Mr. S. having answered in the affirmative to—"Can a skilful medical man distinguish between the hand and the foot, while being born, by the touch?" was then asked by the judge, "If it were not sometimes difficult to distinguish between them?" answered—"At first, but not when the os uteri dilates;" and that even men of experience might at first be deceived; that it might be necessary to make several examinations; and if it proved a hand, interference would be necessary,—if a foot, "Not;" that Mrs. Riley was an apparently healthy person; and that there was no appearance of malformation.

The cross-examination of Mr. Simkins bore upon the rupture of the uterus,—whether death resulted from the rupture of the uterus, or from the displacement of the intestines (the removal of a portion of these, and of a part of the vagina and uterus, not being alluded to),—whether there could be any doubt of the rupture of the uterus having killed her,—whether rupture of the uterus does not frequently occur from natural causes,—whether it does not happen in the proportion of three to one in the case of male children, from the size of the head,—whether it is not often found in every grade of life and state of health,—whether not of more frequent occurrence in the second and third children than the first (this was the third),—if not often found to occur without symptoms to indicate the probability of its occurrence,—if ruptures are not sometimes accompanied by sinking, rolling of the eyes, and vomiting; whether the medical man is not always more or less blamed, and more or less justly; whether when ruptures are the cause of death they are not unfrequently concealed; and whether medical writers do not attribute a large proportion of deaths in cross births to ruptures; whether where it is impossible to save both mother and child, the mother is not to be saved; and if it be not sometimes necessary almost to cut the child to pieces. The learned counsel, however, omitted to make the inquiry, whether it was not necessary *to cut away part of the intestines, and some of the womb and vagina*, in order to effect this; and whether it might or might not add to the safety of the mother to tear about two feet of the intestine from its peritoneal attachments. Nor did he think it important to ask, whether it were not much more probable that the ruptures of the uterus resulted directly from the unskilful and improper use of instruments, and from the subsequent vain attempts to withdraw the fœtus by the foot and arm, than from the natural efforts of the womb.

Eventually the learned judge asked, whether, from the inspection made of the internal parts of the organs of generation, a judgment of the cause of rupture might be formed; whether the wounds and punctures were sufficient to cause a rupture of themselves; and whether the rupture through which the head of the child passed was caused by natural or mechanical means: and on receiving an answer not in the *negative*, but one of doubt, observed,—"How is it possible to proceed in this case? From *all* we hear, the appearances may have resulted from natural causes (*especially the vital parts removed, and the wounds inflicted upon both mother and child, by instruments unnecessarily used*). The appearances were quite sufficient to show that a combination of natural causes might have produced death." He then proceeded—"The witness for the prosecution says that the cause of death was rupture of the uterus. The gut might have expedited it, but the primary cause was rupture: which proceeds frequently from natural causes, more especially in the case of cross births, and with a second or third child. How can the jury, then, take a jump in the dark, and say that other injuries were the cause of death? *They* were "*sufficient, doubtless*;" but you have got a rupture of the uterus here. If I could discover that the insertion of any instrument into the womb had caused this mischief, that would be another case; but, from anything it appears to the contrary, it might have proceeded from natural causes." Upon the judge's recommendation, the jury, after a few minutes' deliberation, said, "We think the death might have arisen from natural causes, and therefore we say he is Not Guilty."

REMARKS.—Permit me, sir, in conclusion, to offer a few remarks. It will be observed, that in the evidence given for the prosecution, there was positive proof of the unnecessary use of instruments; of severe, and indeed mortal, injuries inflicted on the mother, and probably on the foetus also, from their use: of malapraxis in the matter of attempted abduction by the hand and foot;—injuries which the judge himself, in his remarks, acknowledged were sufficient, doubtless, to cause death;—that there were no assertions on the part of Mr. Simkins, that the rupture, of the uterus arose from natural causes; on the contrary, it was evident from his answer that he felt very doubtful upon the subject. There were two other medical witnesses who were present at the autopsy, yet unexamined; there were two others also, Dr. Barry, of the Lying-In Infirmary, of Birmingham, and Dr. Heaton, of Leeds, especially subpoenaed to give evidence on these points after having heard all the other witnesses: and yet a case of so much importance, both in a medical and civil point of view, was thus summarily disposed of. Human life cannot be of much value if the technicalities of law can screen *practice* as above detailed.—I am, sir,

Your obedient servant,

Fred. Crellin, R.N.,
F.R.C.S., L.A.C.

Repton, near Burton-on-Trent,
Derbyshire, August 1848.

P.S.—I may add that the accused, although inserted in the Medical Directory as Member of the College and Licentiate of the Apothecaries' Company, is not so, the prosecutor having written to both places to inquire. He also used the printed form of register; and simply said "Parturition." I think steps might be taken to prevent unqualified practitioners from using them, which would naturally lead to coroners' inquests if they were made the only legal form of certificate.

⁂ This case is of considerable importance in relation to the practice of midwifery, the registration of medical practitioners, and the state of the law in regard to charges of malapraxis. We shall reserve our remarks upon the evidence until next week.

LOCAL ANÆSTHESIA.—THE USE OF CHLOROFORM IN SPASMODIC CHOLERA.

Sir,—In corroboration of the interesting views on this subject so well expressed by Professor Simpson in his communication to your journal,* I may mention the benefit derived from the local use of chloroform to relieve the cramp of the extremities in cholera.

It has been of immediate and signal relief in my hands. The remedy has in some cases acted like a charm. The patients, previous to its employment, had been suffering intensely from this painful symptom,—not daring to move a limb for a moment. The bed-clothes being raised up, and a few *drops* being sprinkled on the sheet under and around the limbs, and the vapour retained by tucking in the bed-clothes, the benefit has become evident immediately; and before a few seconds have passed, the limbs have been freely moved without the superinduction of the cramp.

Notice is taken in this communication of Dr. Simpson of the topical use of carbonic acid gas. Its employment has in this country been had recourse to as well as in Italy. Nearly thirty years ago, a clergyman, Dr. Rowe, at that time resident at Bath, was in the habit of employing it under similar circumstances to those in which it was employed by Dr. Rossi. In one case, with whose sad fate I am well acquainted—a case of carcinoma uteri—it was employed for some months. It was used thrice a-day, and for the time was of great benefit in allaying the pangs of the sufferer.

Whilst on the subject of local anæsthesia, I wish to remind the profession of the great advantage of belladonna applied locally. A solution of a drachm, or a drachm and a half of the extract, to an ounce of water, is a most manageable form for its use.

This, painted freely with a brush or feather of a pen on any part of the surface in pain, seldom fails to be of benefit. When the local sensibility is greatly exalted, as in gout and rheumatism, it readily deadens it. In milk fever, and at weaning time, its free application over the breast is equally beneficial.

The local paralysis suspends the secretion, and the mamma, previously hard and throbbing, become flaccid and free from pain. Occasionally I have found it used so vigorously as to occasion its specific influence on the retina; but this was an inconvenience merely temporary.—I am, sir,

Your obedient servant,

G. F. Girdwood.

1, Southwick Crescent,
1st August, 1848.

DRY SCRUBBING IN HOSPITALS.

The editor of the Medical Gazette will oblige Chirurgus by informing him how the dry scrubbing in hospitals is effected to which allusions have been made at the meetings of some of the London medical societies.

August 8, 1848.

⁂ We insert this in order that our correspondent may receive an answer from some of those who are able to speak to the comparative merits of dry and wet scrubbing.

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* Page 1076, July 14th.

ON THE UTILITY OF THE CHLORIDE OF ZINC FOR ANATOMICAL, SANITARY, AND AGRICULTURAL PURPOSES.

(*From a Correspondent.*)

As reports made to, and printed by order of, the House of Commons, are not likely to fall under the notice of our readers, we shall give a few extracts from those just cited, which contain much information of great value to the members of the medical profession, in their capacity of officers of public health: confining our observations principally to authenticated facts which demonstrate the varied utility of the chloride of zinc—a utility which is daily becoming more apparent and remarkable, whether as a preservative of animal or vegetable tissues, or as a decomposing agent of fœtid or contagious effluvia.

In the earliest of the reports abundant evidence is afforded that by its employment in hospitals all unpleasant odours arising from water-closets, dead bones, or purulent discharges, may be destroyed, — that the colour and texture of parts for dissection are admirably preserved, as are wet preparations of morbid anatomical specimens, at a price infinitely less than that of spirits of wine. Further reports bear upon the purifying ships from the odour of bilge-water; but as this is chiefly interesting to our naval brethren, we merely extract the following portions of letters from Dr. Sharpey, Mr. Pettigrew, and Mr. Partridge:—

"All our subjects are now injected with the fluid immediately they arrive, and I do not hesitate to say that our dissecting-room is more free from unpleasant odour than any room of the kind in the metropolis; and the great advantage this fluid possesses over all others we have as yet tried is, that it has no effect upon the knives.

"I cannot but consider it one of the greatest boons conferred upon the profession. Dissections may be carried on in the hottest weather, without the slightest injury to health, or offence from smell."

* * * *

"Further trials, and eighteen months' further experience of the use of the antiseptic liquor, have only served to confirm my conviction of its decided efficacy in checking the putrefaction of animal substances, in permanently preserving from decay portions of the animal body immersed in it, and in correcting offensive smells, arising from putrescent animal matter."

* * *

"I have now given a careful and extended trial to the use of the antiseptic, in the preservation of animal bodies, and I can fully corroborate the opinion which others have given of its utility. No body is now dissected at King's College which has not been previously prepared by injecting your antiseptic into the arteries; and this preliminary proceeding is not found to interfere with the subsequent success of the ordinary paint injection, which should be thrown in on the following day. As the parts become exposed in the progress of dissection, it is useful to moisten them with a little of the solution by means of a soft sponge, and the hollow viscera should be washed out with the solution by the aid of a syringe.

"By these measures the different structures of the body are fully and distinctly preserved; the muscles, however, become paler and perhaps a little more fragile than natural, but remain quite distinct."

In the second report very remarkable facts are brought forward, proving that ships whose holds are purified by the chloride of zinc are not only rendered much more agreeable, but that the proportion of sick is much diminished. This is proved by corresponding returns from ships of the same class, on the same station, in which the use of this agent had been both applied and neglected.

The greater part of the two reports of the Metropolitan Sanitary Commission — or rather of their report and correspondence—relates to comparative trials of the chloride of zinc, the nitrate of lead, and the chloride of iron, as deodorizing agents;—the Commissioners of Sewers having had a series of experiments performed on cesspools, drains, &c., with the view of rendering the cleansing of these receptacles less dangerous to those living in the neighbourhood. There can be no doubt that the noxious gases generated in cesspools not only *may be* diffused in the process of cleansing, but *must* be, to a greater or less extent, however carefully the operation be performed: and the effects would vary with the state of the weather, the prevalence of an epidemic, and the bodily power of the surrounding inhabitants.

It is, therefore, a fact of great importance, and one which the profession should bring before the magistrates of their district, that all receptacles of filth may be emptied without subjecting neighbouring persons to inconvenience or injury — by properly diluting the fœtid contents with water and a solution of chloride of zinc. The public are under great obligations to Sir William Burnett for the establishment of this important safeguard: these claims are fully admitted by the Commissioners in their report. It would appear, from a series of experiments, that the process is as economical as any which has yet been suggested.

It is of some importance to agriculturists to know that the use of the chloride of zinc does not injure the fertilizing properties of manure. Without entering into a complicated chemical question, the simple fact is established practically in a letter from a Mr.

Ferar, a farmer at Watford, to Mr. Stewart Marjoribanks, shewing that a free application of a dilute solution of the chloride of zinc before sowing, and after the plants were above ground, greatly improved the crop. The potatoes were all sound and smooth on the surface, while of the general crop, "those not done with the chloride, and grown in the same field, and some of the same variety, the produce in quantity was equal to those done with the chloride; but when taking them up, I found many spotted, some quite decayed, and a great many have gone bad since." (p. 31).

Now that the potato blight and its attendant miseries are again threatened, we need not add that our readers should bring this fact before their agricultural patients. The medical man is never carrying out the objects of his mission more generously than in bringing his scientific knowledge to bear upon the improvement of the productions of the country, and the consequent welfare of the industrious classes.

OMICRON.

August 1848.

Medical Intelligence.

THE PROGRESS OF ASIATIC CHOLERA IN EUROPE AND ASIA.

SIX large cholera hospitals were opened in St. Petersburgh during the prevalence of the cholera, and the numbers received were

	Fresh cases.	Of these died.	Recovered.	Total under treatment.
On July 11	692	396		
,, 12	606	386		4006
,, 14	525	312	218	3972
,, 15	432	274	262	3843

At Abo (Grand Duchy of Finland), on the 15th of July, 462 persons had been attacked with cholera; of these 225 died, and 139 recovered, or were convalescent.

Since then the cholera has disappeared from Finland.

Pesth.—Several cases of cholera had occurred at Orsowa, on the 14th of July.

Constantinople, 5th July.—The cholera, which had sensibly increased during some days, lessened in severity after the occurrence of a violent storm. There were 196 deaths during the last seven days. The epidemic is declared to be prevalent in Asia Minor and the Dardanelles.

Posen.—The Kölner Zeitung has a letter from Posen of the 5th inst. stating that a case of Asiatic cholera had occurred in that city. The patient—a woman—was at once conveyed to the Cholera Hospital, where it is asserted she is doing well, and likely to recover. Cholera hospitals have, by order of the Government, been prepared in all the Prussian towns and large villages, and every care is taken to lessen the horrors of the approaching pestilence.

Letters from St. Petersburgh of the 3d inst. state that the cholera is gradually disappearing in that city. The cholera hospitals have been shut up by order of the Emperor.

POPULAR INSTRUCTIONS FOR THE TREATMENT OF CHOLERA, ISSUED BY THE RUSSIAN GOVERNMENT.

OUR readers will find in our last volume, page 717, the instructions issued by the medical department of the Russian Imperial army. We now add the following, which is addressed to the public:—

"It has been remarked that just before the appearance of the cholera in a district, the inhabitants are troubled more than usually by diarrhoeas and other complaints, trifling under ordinary circumstances, but which, in the presence of the epidemic, are apt, if neglected, to degenerate into real cholera cases.

"It is well known, from the experience obtained in 1830 and 1831, that the cholera is in itself generally not contagious, but that it may become so, like some other diseases, if many sick are kept crowded together.

"The cholera has been found to be most destructive in villages situated on low and marshy grounds, or near bogs and stagnant pools, and particularly where the inhabitants are confined within narrow space, and live unmindful of cleanliness.

"It has been further observed that those dejected in spirits and easily alarmed are more subject to cholera than those who live in confidence and are of good courage.

"The preceding remarks having been made, the following are the precautions recommended for observance against cholera:—

"To beware of catching cold, and particularly to protect the stomach from cold, for which purpose to wear a broad belt of cloth or stout flannel upon the skin around the waist; not to lie upon the bare ground, nor to sleep at night in the open air. After sleep or hard labour, when in perspiration, to drink no water or other beverage cold; to drink no acid beverage, and never much at a draught; to beware of all things of intoxication; to use light food and moderately; to eat no bread insufficiently baked, no crude vegetables, no unripe fruits, nor meat or fish not perfectly fresh, and to abstain from salted meats and pickled fish that provoke thirst; to keep the person and the dwelling clean, and to allow of no sinks close to the house, to admit no poultry or animals within the house, and to keep it airy by ventilation. Where there are sick let not the place be crowded.

"Notwithstanding the best precautions, the cholera may at times break out. The following are its symptoms, and the treatment to be pursued with perseverance and confidence:—

"A person in good health may be suddenly attacked by cholera; at first sickness, the eye-sight dimmed, then, after a shiver and rumbling in the bowels, vomiting and purging, with acute pains below the breast, under the ribs, and on the left side, attended by quenchless thirst. If the patient be not quickly succoured, cramps ensue in the legs and arms, which become of icy coldness, extreme weakness comes on, and a deadly paleness, the whole body becomes cold, then a hiccough, and other signs of approaching death.

"On the appearance of the first symptoms let medical aid be immediately called, but if that cannot be obtained, the treatment necessary is as follows:—

"1. Let the patient be warmly covered.

"2. Let his whole body be well rubbed with warm vinegar or brandy; likewise his hands and feet and pit of the stomach with clear tar, or, if none can be had, with strong brandy.

"3. Let the patient take, in frequent and small quantities, a warm and light infusion of mint, or of the essence of mint, one or two drops at a time, with sugar.

"4. If there be no abatement of pain or vomiting, a blister of mustard should be applied to the pit of the stomach.

"5. If all the same symptoms still continue, and the patient be of a strong constitution, then apply leeches to the same place, 12 to 20 for an adult, and for children 6 to 10; but, if of a weak constitution, let no leeches be used without the advice of a physician.

"6. A warm bath, if ready and near, may be used with benefit, otherwise a vapour bath may be prepared at home thus:—Heat some stones or bricks, and over them place a bedstead with a netted bottom, upon which let the patient be stretched, well covered; then throw the vinegar upon the hot stones, whence steam will arise conducive to perspiration, aided by the frictions, which must not be discontinued. For want of this vapour bath, place around and in contact with the patient bags of heated sand or ashes.

"Observations.—During the present epidemic no applications have been found so efficacious as strong frictions, either with the naked hand, with a cloth, or with a brush, using clean tar or some other irritant. The essence of peppermint may be used more freely than heretofore prescribed.

"Great care must be observed during convalescence, for the cholera is but often followed by typhus fever."

DEATHS FROM ZYMOTIC DISEASES IN THE METROPOLIS DURING THE LAST QUARTER.

The following statement, extracted from the Registrar-General's returns, shews the progress of epidemic, endemic, or zymotic diseases in the metropolis during the last quarter:—

Cause of death.	Total.	Weekly average derived from deaths of 1843-4-5-6-7.
Zymotic, Epidemic, or Endemic Diseases.		
Week ending April 22...	252	176
" 29...	238	176
" May 6...	271	271
" 13...	263	271
" 20...	269	176
" 27...	286	176
" June 3...	278	176
" 10...	294	176
" 17...	289	176
" 24...	310	176
" July 1...	347	176
" 8...	338	257
" 15...	319	257
" 22...	390	257
" 29...	505	257
	4649	3154

Excess in 15 weeks, 1495.

Cause of death.	For the week ending July 22.	For the week ending July 29.	Weekly average of 5 summers.
Diarrhœa...	94	173	66
Cholera ...	21	26	7

Deaths from excess of diarrhœa in the two last weeks 135
Excess of deaths from cholera in the two last weeks 33

CAUSES OF THE SICKNESS AND MORTALITY AMONG THE EMIGRANTS OF 1847.

The sickness and mortality were almost entirely from fever (typhus fever, and that variety of it called ship-fever) and dysentery; and in some of the ships sailing from ports in Ireland, or from Liverpool, with Irish emigrants, we may reasonably suppose that some of the passengers might embark infected with typhus, and this would, in a week or so, develope itself, and afterwards spread among the passengers. Dysentery arises sometimes from improper and imperfectly cooked food, and in certain circumstances it also is occasionally infectious, so that it would perhaps spread in the same way as the fever.

The spreading of these diseases would have been much less if it had not been aided by want of medical advice, an over-crowded state of the ship, an absence of due cleanliness, want of exercise on deck, and of proper cooking of the food.

But, on the other hand, in many of the ships, there is no reason to suppose that typhus, or its infection, or dysentery, was embarked, and the fever which appeared after leaving port is sufficiently accounted for by the over-crowding and the deficient ventilation, aided by the predisposing cause of low diet. Fever arising in this way afterwards spreads by infection, and so the remaining passengers ran two chances of being taken ill—that is, from the original cause, and from infection.

The same remark may be made regarding the dysentery: it would, in the first instance, arise from the uncooked victuals and improper diet, and would then both continue to be produced by the original cause, and, perhaps, also be communicated by infection.* The sickness from embarked typhus, or its infection, and from dysentery, might have been much checked, and the sickness from typhus or dysentery, springing up on board, might have been prevented by proper regulations. In some ships, from obstacles thrown in their way with regard to cooking, and in others, from laziness, carelessness, or whatever it may be called, the passengers often did not cook their provisions at all. In others, in obeying the calls of nature, they invariably did so into the hold, and sometimes would not even leave their sleeping-berths; sometimes they would not allow the captain or crew to come down among them, afraid of being forced to wash, and to go on deck; in others, again, they were smoked out, and so forced to go on deck; and, however well intended on the part of the master this may have been, it cannot be forgotten that some, and perhaps many, may have been too weak either to move or even to be moved. Considering all these things, instead of wondering that the mortality was so great, we may feel surprised that it was not greater.—*Dr. Stratton.*

INFLUENCE OF CELIBACY ON MORTALITY.

Dr. Mayer of Besançon, has recently compared the rate of mortality among persons who have taken the religious vow of celibacy, and lay-individuals occupied in the different professions of society. The results at which he has arrived are—

1. For a period of ten years, *i. e.* from the age of sixteen to twenty-five years, the rate of mortality is 2.68 per cent. among monks and nuns of different orders; while it amounts to only 1·48 per cent. among lay-individuals of the two sexes.

2. For a period of ten years, comprised between the thirty-first and fortieth year, the mortality is 4·4 per cent. among monks and nuns, and 2·74 per cent. among the lay-portion of the community.

These results are similar to those obtained by Deparcieux, in 1746. Dr. Mayer is inclined to think that they do not justify the inference, that the exercise of the sexual functions has any influence on the health or duration of life either among males or females. Celibacy in his opinion is not injurious, but on the contrary favourable to a state of health and longevity. He considers that the differences indicated by the figures are really owing to the influence of confinement, and the want of mental and bodily occupation.

INFLUENCE OF THE CLIMATE OF ALGIERS ON EUROPEAN CONSTITUTIONS.

According to M. Boudin, the annual deaths in France are, 23·6 to 1000 inhabitants. The population of the province of Algiers, may be divided into Jews, Mahometans, and Europeans, chiefly French. The deaths in 1000 of the population were, in

	1844	1845
Jews	21·6	36·1
Mahometans	32·4	40·8
Europeans	42·9	45·5

In some of the towns the deaths of Europeans reach a still higher number. Thus, while in Algiers they are 36·4 to 1000 of the population, they are—

At Oran	41·5
Philippeville	55·3
Mustapha	62·1
Fondruck	65·
Blidah	66·2
El Arouch	141·4

The latter place may be called the Frenchman's grave.

THE BRITISH ASSOCIATION FOR THE ADVANCEMENT OF SCIENCE.

The meeting of this Association commenced at Swansea, on Wednesday, the 9th inst. Sir R. H. Inglis took the chair, which he subsequently resigned to the Marquis of Northampton, who is the elected president of the meeting. The noble Marquis delivered the usual address on the benefits conferred by the society on the nation, in a scientific point of view; and on the general prospects of the Association. From the financial statement, it would appear that the annual subscriptions have fallen off considerably, and are now of a very limited amount. The scientific grants had almost drained that portion of the life subscriptions which had been funded; and the consequence has been that for several years the expenditure has exceeded the income. In order to restore the finances, the noble Marquis suggested that the visits of the Association should be made to the great seats of population and industry, where there is likely to be a great accession of annual subscribers. A hint was also thrown out that the Association might find it necessary to appeal to the generosity of its members.

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* Some physicians consider that dysentery is not infectious; others that it is so occasionally; and others, again, that it is so only when complicated with infectious fever.

In our view, a most undue proportion of the funds has been spent on astronomical and tidal observations. Other branches of science have received but a very small share of the subscriptions for their encouragement. An appeal should, therefore, in the first instance, be made to the generosity of the astronomers, and the mathematical members of the Association.

TAPE-WORM IN FISH.

M. **Ancelon** mentions the singular fact, that in lately examining a small fish, known under the name of *rousse*, he found a tænia about eleven inches in length, precisely resembling the entozoon found in the human intestines. The only difference was, that the head instead of terminating in a long and very narrow neck, ended in a point which the animal could elongate or contract at will. He was unable to discover any trace of a mouth.

THE DEIAMBA OR CONGO TOBACCO. A NEW NARCOTIC.

The Deiamba or Congo tobacco is a plant which grows wild on the marshy banks of the Congo or Zaira. When full grown it is six or seven feet in height. Its long spreading branches are covered with small leaves about three inches long, and beneath these are the flowers containing the seeds. These flowers are exposed to the sun for several days, and dried before use. If when smoked the vapour be swallowed, symptoms of narcotic poisoning appear. The deiamba is well known to all the Portuguese residents on the African coasts. It is used by the natives both as an article of luxury, and as a medicine.

CONSUMPTION OF OPIUM IN ENGLAND.

The monthly returns of the Board of Trade, issued on the 10th inst., show that the consumption of opium has largely increased. In the first half of 1846, it was 9,300 ℔.; in that of 1847, it was 27,208 ℔.; and in 1848, it has been 36,985 ℔.

ROYAL COLLEGE OF SURGEONS.

Gentlemen admitted Members on the 31st ult.—J. Dixon—J. C. Carver—E. B. Machin—L. Richardson—D. H. G. Wildboor—J. H. Hemming—G. M. Burton—T. M. Harding—C. Drew.

Gentlemen admitted Members on Friday, the 11st inst.—J. Croston—T. Crocker—L. Armstrong—R. Thomason—G. H. Cook—F. C. F. Malden—A. Crompton—J. G. Smith.

Admitted on Monday, August 14.—J. S. Garthon—F. Y. Toms—J. J. Cooke—W. C. May—W. T. H. Burrow—E. G. Chapman—T. Michell.

APOTHECARIES' HALL.

Names of Gentlemen who passed their examination in the Science and Practice of Medicine, and received certificates to practise, on Thursday, 10th August, 1848.—George Keer, Parham, Suffolk—Leonard Armstrong, Hexham, Northumberland—William Charles Lake, Teignmouth, Devon—Frederic Sopwith, Tonbridge Wells—James Ogden Fletcher, Manchester.

OBITUARY.

At Kingston, Jamaica, on the 20th of June, William Arnold, Esq., M.D. F.R.S. &c., in the 58th year of his age.

On the 14th inst., at Crewkerne, Somersetshire, in his 44th year, Edward Silvester Burnard, Esq., Surgeon.

Selections from Journals.

ALLEGED POISONING OF FISH. JUDICIAL EXAMINATION.

It was supposed that some fish in a pond belonging to M. Bourcy had been wilfully poisoned: and the bodies of two carp were sent to MM. Ancelon and Parisot for examination. The intestinal tube in each fish was empty, pale, and free from any trace of inflammation. The other viscera, as well as the air bladder, were in a normal state: the gills were of a deep red colour. An alcoholic extract was made of the intestinal tube, but the only residue procured was fatty matter. The substance left undissolved by alcohol was treated with diluted sulphuric acid. A colourless acid liquid was thus procured, which was free from any bitter taste. The surplus acid was neutralized by carbonate of lime evaporated to dryness, and the residue digested repeatedly in alcohol. The alcoholic liquids when mixed had no bitter taste, nor did they leave any bitter residue. A part of the solid extract did not acquire an orange yellow colour when it was treated with nitric acid. The residue of the two fish was carbonized by nitric acid: the carbonaceous matter gave, with distilled water, a yellowish coloured liquid, which was submitted to the processes of Reinsch and Marsh, and to a current of sulphuretted hydrogen gas, without yielding any evidence of the presence of arsenic.

Some carp were now poisoned by throwing to them paste balls containing *cocculus indicus*, like those employed by poachers. It was observed that this poison began to act on the fish in about two hours: and the symptoms were irregular motions of the body, followed by a kind of stupor and blindness. The fish died in fifteen or twenty hours. The scales had lost their natural colour; the gills were very red; the heart was gorged with dark-coloured blood; the intestinal tube was inflamed throughout, and filled with a bloody liquid.

Nux vomica was found to operate more slowly, and with symptoms of a less marked character, probably owing to the vomiting induced. In spite of the administration of repeated doses, this poison did not kill the fish until after the lapse of from twenty-four to thirty-six hours. The fish when affected by it assumed a vertical position; the tail became paralysed, but the dorsal fin became exquisitely sensible. The intestinal tube was inflamed, and contained a bloody liquid, as in the case of poisoning by cocculus indicus.

The conclusions drawn by the reporters were:—

1. That from the state of the viscera in the carp there was nothing to indicate death from poison.
2. That no poison could be detected by chemical processes.
3. That the fish had probably died from the effect of the high temperature which had recently prevailed.—*L'Union Médicale.*

A DICEPHALOUS MONSTER WITH ONE HEAD BLACK AND THE OTHER WHITE.

M. Prus has recently addressed to the Medical Society of Paris, a communication on a singular case of monstrosity, which occurred at Alexandria. The monster, which was born dead, had two heads attached to one trunk. The heads were well formed: one was white, and appeared to correspond to about the eighth month of uterine life; the other was black, of larger size, and had apparently reached maturity. In other respects, the child which was a male was normally developed. The shoulders, trunk, and upper and lower extremities, were white. The nails were imperfectly formed, and resembled those of an immature child. The alteration in the colour of the skin commenced about the level of the neck of the black head. It was here brown, becoming gradually deeper, and passing imperceptibly to a deep black, extending over the whole of the head and face. M. Prus made a careful examination, and satisfied himself that the change of colour was not owing to any nævus, sanguineous congestion, or other morbid condition. When the epidermis was removed, there was a thick layer of pigmentum nigrum in the mucous tissue of the skin. He therefore referred this head to the negro-type—an inference which was justified by its form and general aspect. The parents were *fellahs*—the mother was from 25 to 30 years of age; and the father about 30, a labourer in the port of Alexandria. Like all individuals of this tribe, they had a brown skin, with a yellowish tint. The woman died soon after her delivery: she had previously had five well-formed children, of whom four had been born dead.

The physiological questions which arise in respect to this monster are difficult of solution. Did the two heads belong to different types, fellah and negro? Is it a case of superfœtation in which two ova have been separately fecundated, the one by a negro, and the other by a white; the ova becoming fused with the exception of the two heads? If this were the case, it is difficult to understand why some portion of the skin of the trunk and extremities should not have been equally black. M. Prus remarks, that there are negro labourers in the port of Alexandria, but he could not ascertain whether the mother had had intercourse with one of that race. A committee has been appointed by the Society, to draw up a report upon this very remarkable case.—*L'Union Médicale.*

ON THE USE OF CHLOROFORM IN SURGERY.

BY M. VALLEIX, PHYSICIAN TO THE HÔTEL DIEU.

[We extract the following communication from a late number of the Union Médicale.]

The case of death during the inhalation of chloroform which has been presented to the Academy of Medicine by M. Gorré, and the discussion to which that communication gave rise, prove, it appears to me, that if the question of etherization has been perfectly studied experimentally and physiologically, it has not been so practically. I do not see, in fact, any mention of the three stages of etherization, whether with ether or chloroform; it is only by possessing a perfect knowledge of those stages, that one can practise etherization with the necessary safety.

I am far from attributing the terrible accident, of which M. Gorré's patient has been the victim, to any defect of attention or observation; it appears to me, as well as to M. Roux, on the contrary, to result, from the details furnished by that surgeon, formerly a very distinguished interne of the Parisian hospitals, that the cause of death must be sought for elsewhere than in the inhalation of chloroform. But it appears to me that many medical men want an exact appreciation of the phenomena produced by chloroform; that the unfortunate case just related is one of a nature to inspire lively fears in those not familiarised to the use of this substance; and that it would be well to take this opportunity to specify the signs which announce the degree of etherization, and the moment when it should be arrested. If all this can be rigorously determined, one need no longer fear the painful doubt remaining in the mind after sudden death in the course of operation; and if the moment when we ought to discontinue the chloroform has been well observed, or if the stages are regularly shown, we shall be able to say, with a certainty almost mathematical, whether the death ought or ought not to be attributed to etherization. If these rules had been well established, M. Gorré would not have proscribed the use of chloroform in so many operations.

For myself, who have employed etherization in a very great number of painful but slight operations (as cauterization and moxas), I am not at all disposed to give it up, for I have always been able to arrest its action in time. I am about to give the result of my experience. There is doubtless nothing new in what I am about to say, but I believe that there will be found in the following *exposé* a little more precision than in the usual descriptions; and it is exactly this precision that is important. It is with the employment of chloroform as with the administration of certain very active poisons: we ought, before giving them, to know exactly what phenomena they produce, so as to stop just at the moment when the therapeutical action ceases and the poisonous begins, otherwise we are liable to the most serious results.

Ether and chloroform produce exactly the same phenomena, only the latter acts with an incomparably greater, sometimes an extreme, rapidity. But, even in these latter cases, we may observe three marked stages.

In the first stage, the phenomena of suffocation first show themselves, and then of stupefaction. The patient struggles, but his movements are still subject to his will: thus we often see him carry his hands to the apparatus to withdraw it from his mouth, and push aside those engaged in the inhalation. He still answers questions, and usually complains of a humming noise or sound like the wheels of a water-mill. Sensibility remains.

In the second stage, he can still speak, but he no longer answers questions: he speaks of very different things, which have no relation to surrounding objects; it is a true delirium, absolutely like that of drunkenness. Sometimes there are neither cries, nor songs, nor loquacity; but we notice a phenomenon which is never absent,—it is a stiffening of all the limbs; sometimes, also, violent efforts are made by the patient to escape from those who hold him.

Finally, the beginning of the third period is marked by one or several deep inspirations, and the rapid relaxation of the limbs.

Experience, then, has shown me that while the patient is in the two first stages there is nothing to fear for him; but, on the contrary, when he arrives at the third stage, we must immediately discontinue the inhalation: bad effects may come so quickly at this moment, that we may find it difficult to bring the patient to himself. This occurred to me several times formerly, but not since I have been accustomed to watch attentively for the moment I have pointed out.

What renders this surveillance difficult is, as I have said above, that the progress of the two first stages may be excessively rapid; I have seen it scarcely half a minute. This time is so short, that one might believe the first stage not yet passed, although the third has already arrived. This is the danger. A very attentive examination is necessary to recognise this point.

I think that medical men who have not yet practised etherization, ought at first to study these stages from the action of ether. It will occupy them some minutes longer, but they will see the stages succeed each other very distinctly, and they will easily recognise them during the action of chloroform.

It will necessarily lessen the danger, if the operation be commenced before the third period manifests itself. We know that this produces no inconvenience, for if the patients do cry, they have but a very indistinct consciousness of the pain they undergo; they suffer as if in a dream, and that can have no injurious influence.

As to slight operations, if there be any fear, it is only needful to perform them during the second period; the trifling concern of the patient after the operation,—on the contrary, his air of gaiety,—prove, in fact, that he has experienced very little pain.

Finally, in great operations, etherization ought to be confided to some one who will not allow his attention to be distracted by the operation, or it may be well to wait until the beginning of the third stage, and then remove the inhaling apparatus before beginning the operation.

What makes me think that, in the case related by M. Gorré, there was some special cause of death, is this, that insensibility supervened immediately, and while the patient was in the act of speaking, that is to say, in the first stage. Sudden and unexpected death is more frequent than is usually supposed; and not only may it be produced by very slight causes, but it may occur without any assignable cause. MM. Roux and Velpeau have acted wisely in throwing doubt on the fatal action of chloroform in this unfortunate case. The employment of this substance is become more precious, since, by statistics, we have learned that the results of operations are markedly more favourable when they are performed under its influence. We ought only to admit, after the most attentive examination, and after having submitted them to the most severe criticism, those cases which would tend to make us reject from the practice of surgery this, the so precious discovery of our day.

VALLEIX,
Physician to the Hotel Dieu.

From M. Valleix's letter, it appears that the successive stages of chloroform, so thoroughly understood here, have not yet been recognised in France, where this communication will be of service.

M. Valleix's first stage is evidently the combined effect of chloroform too suddenly administered, and of the want of a proper supply of air. It is very seldom observed here that the patient feels suffocated, complains of tinnitus aurium, or attempts to push aside the inhaler. It appears that French inhalers admit an imperfect supply of air, like the early English ether inhalers; and that, in France, the chloroform is given of the full strength at first; hence the sense of choaking, and the attempts to withdraw the apparatus.

M. Valleix's second stage corresponds exactly to our second and third stages of chloroformization. The first, with us, being the stage of excitement; the second, that of intoxication; the third, that in which there is unconsciousness, stiffening of the limbs, and, in most instances, contraction of the pupils. The latter part of this third stage, that of sopor, is the proper time to commence operating.

M. Valleix's third stage is our fourth, being that of complete muscular relaxation, dilatation of pupil, and, in fact, coma; it is, in truth, the stage of danger, and ought only to be reached in attempting to reduce hernia or dislocations.

The successive stages pass gradually one into the other.

If chloroform is to be used in the severe minor surgery of cauterization and moxas, so seldom resorted to here, it is well that the exhibition should only be pushed to the state of semi-consciousness, as M. Valleix advises. This will not, however, answer in dental and minor operations: in minor operations, the patient should be quiet; and in dental surgery, the chloroform must be pushed to the stage of relaxation or that of danger, as the stiffening of the muscles of the jaw must be overcome before the operation can commence—an insuperable objection to chloroformization in such cases.

M. Valleix, and the French surgeons generally, do not seem to recognise or bear in mind Dr. Snow's important discovery of the accumulative effects of chloroform.

Z

INFLUENCE OF THE VAPOUR OF PHOSPHORUS IN PRODUCING NECROSIS OF THE JAW. BY DR. JUNGKEN.

It having latterly become a subject of frequent observation that the workmen engaged in the manufacture of lucifer matches are liable to be affected with necrosis of the jaw, and a suspicion having in consequence arisen that the disease was excited by the vapours of the phosphorus employed in this species of manufacture, Dr. Jüngken has been lately investigating the subject with considerable care. The disease by which the fabricators of phosphorus matches are frequently attacked appears to be ordinary necrosis affecting a portion or the whole of the jaw-bone. The dead bone usually excites inflammation and suppuration of the surrounding parts, and in unhealthy persons is frequently followed by a cachectic state which may prove fatal. This affection is, however, by no means confined to workmen engaged in this species of manufacture: it was observed before phosphorus matches were made, and it occurs also among artizans employed in other occupations. Having alluded to the various circumstances which are usually supposed to occasion necrosis of the jaw, such as mechanical or chemical injuries, the presence of carious teeth, and the like, and having described the various phenomena by which the progress and termination of the disease is characterised, Dr. Jüngken proceeds to inquire whether any other than the ordinary causes of the affection occur to persons employed in the making of phosphorus matches. This species of manufacture being very easy, and requiring no great expenditure of strength, and consequent fatigue, is usually followed by individuals who by their physical weakness are incapacitated from more laborious occupations. Hence persons of a cachectic habit of body, and belonging to the female sex, are very commonly employed in it. Of those whom Dr. Jüngken found to become affected with necrosis of the jaw, the majority had already suffered, before they entered upon this occupation, from caries of the teeth and from rheumatic affections, especially rheumatic pains of the teeth. Many of them had in consequence lost several of their teeth by extraction. In some of the individuals the rheumatic pains of the teeth had ensued more frequently, and with greater severity, after they had become engaged in the manufacture of matches; and in some cases were severe enough to lead to the extraction of diseased teeth. In these cases the necrosis of the jaw frequently commenced shortly after the extraction of the teeth; and the phenomena of its onset were exactly similar to those by which the commencement of the disease is characterised, when arising under circumstances entirely unconnected with any possible influence of phosphorus. The progress of the cases, also, presented nothing peculiarly different from what is usually observed in ordinary forms of the affection. On account of the vapours continually arising from the phosphorus employed in the manufacture of matches, constant strong currents of air are necessarily kept up in the rooms in which the work people are engaged. The cold to which the individuals are thus continually exposed will probably in some measure account for the frequent affections of the teeth and jaw with which they are troubled, and to which, from their previous weak and unhealthy state, they are especially subject. In many of the workshops, the phosphorus mixture in which the matches are dipped is not exposed, but confined in iron ovens; yet even in such cases the work-people are equally exposed to cold, for the same currents of cold air are kept continually passing through the room, because of the heat given out by the ovens. This circumstance produces a continual proneness to rheumatic affections of various parts; and when repeated attacks of this kind affect the periosteum of the jaw already in an unhealthy state from the irritation produced by decayed teeth, they are readily succeeded by necrosis of this bone, especially if to the several causes of irritation an additional one be added by the mechanical injury attending extraction of a tooth. In the occurrence of the disease from such causes, nothing can well be attributed to the nature of the employment in which the individuals are engaged.

It may, however, be objected to the above explanation, that necrosis of the jaw is a disease of rare occurrence among work-people in other trades in which the artizans are exposed to equal or even greater vicissitudes of temperature in consequence of the currents of air continually passing through their work-places: *e. g.* in smelting-houses, salt-works, and the like. Persons employed in such trades are constantly liable to attacks of rheumatic periostitis; but the disease commonly affects the limbs and certain other parts of the body, usually sparing the jaw. This Dr. Jüngken explains by the fact that, the nature of these trades being very difficult and laborious, persons of robust health alone are usually employed in them; and this state of good general health is commonly combined with a sound state of the teeth, which thus preserves the jaw from predisposition to become the seat of a rheumatic affection, and so guards against the necrosis which is apt to follow repeated attacks of such rheumatic affection.

It is quite natural that the frequent occurrence of necrosis of the jaw among the workers in match-shops should excite the suspicion that the vapour of phosphorus has an important influence in causing the disease, especially when such a view is maintained by many practitioners and chemists. If, however, it be assumed that, from the vapours of phosphorus which arise in these manufactures, phosphoric or phosphorous acids are formed, their quantity must be so small as to preclude all probability of their acting injuriously upon the jaw, especially when it is remembered that in their properties these acids are very mild, and are frequently administered internally with considerable advantage in cases of affections of the bones. Besides, if the vapour of phosphorus can in this or any other way exert an injurious influence upon the bones, it must be held as very remarkable that it does not act upon other bones as much exposed to its influence as the jaw, *e. g.* the nasal bones and the bones of the skull. But there is no evidence that among match-makers any other bones than the jaws are ever affected with necrosis. Again, if it be assumed with some practitioners that the vapour of phosphorus produces its injurious effects by rendering unhealthy the mucous membrane covering the jaw, and thus secondarily leading to an affection of the subjacent bone, the question still presents itself, why the mucous membrane of the nostrils does not become similarly diseased, exposed, as it is, even more directly to the action of the vapour than is that of the cavity of the mouth.

The results of his several observations, therefore, led Dr Jüngken to the conclusion that, as yet at least, we are not justified in ascribing to the action of phosphorus the necrosis of the jaw frequently found to occur among persons engaged in the manufacture of phosphorous matches. The various facts on which his opinion is based are—first, that necrosis of the jaw is not a new disease which has made its appearance only since the invention of phosphorous matches, its existence having been long known; secondly, that this disease occurs in persons who are in no way exposed to the influence of phosphorus; thirdly, that when it attacks the workmen employed in the manufacture of matches, it presents no symptoms different from those which it manifests when occurring under other circumstances; fourthly, that the persons employed in this species of work are much exposed to conditions which, occurring in other individuals, are liable to be followed by necrosis of the jaw; fifthly, that a specific action of the vapour of phosphorus upon bones has been by no means proved; and, if it exists, there is no reason why it should not affect the bones more exposed to its influence than those of the jaw. These several circumstances seem to shew that necrosis of the jaw cannot with certainty be ascribed to the phosphorus. The frequent occurrence of the disease among the makers of matches, into the composition of which phosphorus largely enters, is, however, a fact too important to be overlooked; and it renders necessary further observations on the cause of the affection before the question can be considered settled. — *Casper's Wochenschrift*, Mai 1848. A

BIRTHS & DEATHS IN THE METROPOLIS

During the week ending Saturday, Aug. 12.

BIRTHS.		DEATHS.		*Av. of 5 Sum.*	
Males....	704	Males....	556	Males....	495
Females..	659	Females..	503	Females..	477
	1363		1059		972

WEST—Kensington; Chelsea; St. George, Hanover Square; Westminster; St. Martin in the Fields; St. James .. (Pop. 301,326)	149
NORTH — St. Marylebone; St. Pancras; Islington; Hackney ...... (Pop. 366,303)	205
CENTRAL—St. Giles and St. George; Strand; Holborn; Clerkenwell; St. Luke; East London; West London; the City of London ....(Pop. 374,759)	187
EAST—Shoreditch; Bethnal Green; Whitechapel; St. George in the East; Stepney; Poplar ....(Pop. 393,247)	253
SOUTH — St. Saviour; St. Olave; Bermondsey; St. George, Southwark; Newington; Lambeth; Wandsworth and Clapham; Camberwell; Rotherhithe; Greenwich ....(Pop. 479,469)	265
Total	1059

CAUSES OF DEATH.		Av. of 5 Sum.
ALL CAUSES	1059	972
SPECIFIED CAUSES..............	1056	968
1. *Zymotic*(or Epidemic, Endemic, Contagious) *Diseases* ..	452	257
Sporadic Diseases, viz.—		
2. Dropsy, Cancer, &c. of uncertain seat	29	45
3. Brain, Spinal Marrow, Nerves, and Senses	106	120
4. Lungs and other Organs of Respiration	53	80
5. Heart and Bloodvessels	25	28
6. Stomach, Liver, and other Organs of Digestion	64	79
7. Diseases of the Kidneys, &c...	8	8
8. Childbirth, Diseases of the Uterus, &c.	7	10
9. Rhematism, Diseases of the Bones, Joints, &c.	5	7
10. Skin, Cellular Tissue, &c.......	4	1
11. Old Age	26	50
12. Violence, Privation, Cold, and Intemperance	19	8

The following is a selection of the numbers of Deaths from the most important special causes:

Small-pox	34	Paralysis.........	1
Measles	22	Convulsion......	32
Scarlatina	124	Bronchitis	21
Hooping-cough..	25	Pneumonia......	22
Diarrhœa	110	Phthisis	129
Cholera	19	Dis. of Lungs, &c.	3
Typhus	66	Teething	6
Dropsy..........	12	Dis. Stomach, &c.	7
Sudden deaths ..	7	Dis. of Liver, &c.	14
Hydrocephalus..	29	Childbirth	3
Apoplexy........	26	Dis. of Uterus, &c.	4

REMARKS.—The total number of deaths was 87 above the weekly average. This increase is chiefly due to the extraordinary fatality of scarlet fever. The deaths from this disease during the week were no less than 124 to a weekly summer average of 37! Of these, 120 deaths occurred among infants. Diarrhœa infantum has been less fatal during the week.

METEOROLOGICAL SUMMARY.

Mean Height of Barometer				29·77
" " Thermometer[a]				58·2
Self-registering do.[b]	max.	95·	min.	37·
" in the Thames water	—	65·	—	62·2

[a] From 12 observations daily. [b] Sun.

RAIN, in inches, 1·12: sum of the daily observations taken at 9 o'clock.

Meteorological.—The mean temperature of the week was nearly 3° below the mean of the month. The last two weeks have been remarkable for an unusually low temperature, and the fall of an enormous quantity of rain.

BOOKS RECEIVED DURING THE WEEK.

Handbuch der allgemeinen und speciellen Gewebelehre des Menschlichen Körpers für Aerzte und Studirende von Dr. Jos. Gerlach.
Dr. W. T. Gairdner on the Pathology of the Kidney.
On the Blow-hole of the Porpoise, by Francis Sibson, Esq. from the Phil. Trans.
Maunder's Treasury of Natural History.
The Law of the Nutrition of Animals, by F. Knapp, Ph. D.
The American Journal of the Medical Sciences, July 1848.
British Record of Obstetric Medicine, Aug. 15.
Proceedings of the State Medical Conventien, Lancaster, Pennsylvania, 1848.
Journal de Chimie Médicale, Août 1848.
Todd's Cyclopædia of Anatomy and Physiology, Part XXXII.

NOTICES TO CORRESPONDENTS.

The Lecture of Mr. Bowman, and the communications of Dr. A. T. Thomson and Dr. Snow, will be inserted in the following number.
Mr. A. J. Simkins. — Our correspondent will perceive that Mr. Crellin's report is inserted. A copy of the Staffordshire Advertiser has been received.
Mr. Swan's request shall be attended to.
Mr. L. Richardson.—The names were accidentally omitted. They are inserted this week.
Mr. White's communication on the Upton-on-Severn Union was too late for the present number.
RECEIVED.—Mr. Bowman.—Mr. C. Braddon.

Lectures.

LECTURES ON THE DISEASES OF INFANCY AND CHILDHOOD,

Delivered at the Middlesex Hospital.

By Charles West, M.D.

Physician-Accoucheur to the Middlesex Hospital, and Senior Physician to the Royal Infirmary for Children.

Lecture XXXIX.

Measles and scarlatina—once confounded together, though essentially different diseases. Symptoms of measles — their chief danger due to the supervention of bronchitis or pneumonia—treatment of measles.

Scarlatina—great differences in its severity in different cases. Symptoms of each of its three varieties—sequelæ of the disease —diagnosis from measles—treatment.

When the short-lived prejudices which at first were entertained against vaccination had been removed, men passed as they not seldom do to the opposite extreme, and over-estimated the worth of that discovery which they had before undervalued. Physicians rejoiced in it, as a means of getting rid for ever of a disease which might well be counted among the opprobria of their art,—philanthropists exulted in the probable extermination of one of the most fearful scourges of the human race; and statisticians counted the increase brought to the population, and drew up elaborate tables to illustrate their bright anticipations of the future.* In these over-sanguine calculations, however, they almost entirely lost sight of the fact, that not all who were preserved from small-pox, would be added to the useful population of the country, but that the life of many would be prolonged only for a short season, to be cut off soon by some other disease, against which neither science nor fortunate accident has hitherto discovered a talisman. Experience has proved the truth of what calm reflection might have suggested, and with the diminution in the frequency of small-pox, there has been an increase, though not to an equal extent, in the prevalence of *measles* and *scarlatina.*

It is not easy to state with exactness the amount of mortality which these two diseases occasion; for though they are never altogether absent from a large city like London, yet their frequency and their fatality vary much in different years. At one time they occur sporadically, and are then in most instances mild in their character, and readily amenable to treatment; while at another time they prevail as epidemics, and are attended with alarming symptoms, which it is often not in the power of medicine to control. Dr. Gregory, who, in his work on the Eruptive Fevers, has collected together with much labour the statistics of those diseases, presents us with a table, from which it appears that, on an average of five years, very nearly six per cent. of the mortality of London, is due to measles and scarlatina. This number, indeed, is not so great as at once to impress us with the formidable nature of those two affections; but it should not be forgotten, that (according to the fifth Report of the Registrar-General), 81 per cent. of this mortality occurs in children under five; and 97 per cent. in children under ten years old; while no figures can accurately represent the instances in which death is occasioned by their complications or sequelæ.

These two diseases present many points of resemblance,—so many, indeed, that they were long supposed to be but varieties of the same malady; and the essential differences between them have not been recognized for more than seventy years. It is, however, on many accounts important to distinguish between them,—for not only are they not attended by the same degree of danger, but this danger arising from dissimilar causes, the treatment which they require is in many respects different. We shall presently examine into some of those peculiarities in their symptoms on which we chiefly rely in forming our diagnosis between the two affections; but I may even now state some of the broad distinctions between them.

Measles is still more eminently than scarlet fever a disease of early childhood,—for of 1293 deaths which it occasioned in London in 1842, 93·8 per cent. occurred in children under five years old, and 99 per cent. in those under the age of ten; while of 1224 deaths from scarlatina, 31 per cent. occurred after five, and 10 per cent. after ten years of age. Though there are great fluctuations, both in its prevalence and in the mortality which it occasions, yet its variations in these respects are less considerable than those of scarlet fever; while the number of persons who pass through life without having experienced its attack, is smaller than of those who die without having ever been affected with scarlatina. Though a more universally prevalent disease, however, it is fortunately less dangerous, its mortality not exceeding 3 per cent. of the patients attacked by it; while the medium rate of mortality from scarlet fever is estimated at at least double that amount. When measles proves fatal, too, it is very seldom the fever itself which occasions the patient's death, but generally its complication with inflammatory disease of the respiratory organs. Scarlet fever, on the contrary, destroys its victims in all stages of the disease; and in many of the worst cases, in which death takes place early, no organic change is left behind which the scrutiny of the anatomist can discover.

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* As an instance of which may be mentioned, the work of Duvillard, De l'influence de la petite vérole sur la mortalité. 4to. Paris, 1806.

The *symptoms* that attend the onset of *measles* present little besides their greater severity, to distinguish them from those of ordinary catarrh. A child, previously in perfect health, becomes suddenly restless, thirsty, and feverish, and, if able to talk, generally complains of head-ache. The eyes grow red, weak and watery, and are unable to bear the light; the child sneezes very frequently, sometimes almost every five minutes, and is troubled by a constant, short, dry cough. On the fourth day from the commencement of these symptoms, a rash makes its appearance on the face, whence it extends in the course of about forty-eighty hours to the rest of the body and the extremities, travelling in a direction from above downwards. The rash is made up of a number of minute, deep red, circular stigmata, not unlike flea-bites, slightly elevated, especially on the face, and though close together, yet usually distinct from each other; the skin in the interspaces between them retaining its natural colour. On the cheeks, the spots sometimes become confluent, and then form irregular blotches, about a third of an inch long by half that breadth; while the spots elsewhere often present an indistinctly crescentic arrangement. The eruption fades in the same order as that in which it appeared, and after the lapse of forty-eight hours from its appearance, at which time it is at its height on the trunk, it is beginning to disappear from the face. On the 7th day of the disease, the rash grows faint on the body generally, and on the 8th or at latest the 9th day, it has entirely vanished, leaving behind either a little general redness of the surface, or a few yellowish red, spots, corresponding to some of the situations which the eruption itself had occupied. In some cases a partial desquamation of the cuticle takes place after the rash has disappeared, but this is by no means a constant occurrence, while the epidermis separates in minute branny scales, never in large portions, as it often does after scarlatina.

Unlike small-pox, in which the appearance of the eruption is immediately followed by the subsidence of all the previous symptoms, the constitutional disturbance of measles is in many instances not at all alleviated on the outbreak of the rash. The reverse, indeed, is frequently the case; and in many instances, for 24 or 48 hours afterwards, the fever is aggravated, and the cough more troublesome than before, while the voice often becomes hoarser, and the throat is somewhat sore in consequence of the inflammation of the palate and fauces, which may be seen to be the seat of a punctated redness, resembling that produced by the eruption on the skin.

The aggravation of the symptoms, however, when it does occur, is only temporary: and on the sixth day of the disease, if not sooner, an amelioration in the patient's condition becomes apparent; the fever diminishing, the cough growing looser and less frequent, and moist sounds becoming audible in the lungs, where previously nothing was heard but rhonchus or sibilus. In cases, however, in which the disease takes a less favourable turn, this is the period when the supervention of serious thoracic complication is most to be feared. It happens, indeed, occasionally, that the disorder of the respiratory organs is severe from the very commencement of the child's illness, and that it merely becomes aggravated with the progress of the disease. But, in the majority of cases, it is not until the eruption has already reached its acme, or is just beginning to fade, that serious inflammation of the larynx or bronchi, or of the substance of the lungs, is set up, while the symptoms of any such occurrence need to be watched all the more carefully at this period, from the rapidity with which they tend to a fatal issue. Still, although the danger from mischief in the chest is most imminent at this stage of the disease, yet the same symptoms may come on at a later period, when the eruption has already faded for one or two days, or even later, and when a sort of incomplete convalescence is already established. I need not now do more than remind you of the croupal symptoms which sometimes come on at the decline of measles, and which, as I mentioned some days ago,* are so dangerous and intractable. At this period, too, inflammation of the substance of the lungs is to be dreaded, and all the more from its coming on almost imperceptibly, unattended with much cough or dyspnœa, and associated with such considerable sympathetic disturbance of the stomach and bowels as very readily to lead into error with reference to the seat of the disease. The course of the affection of the lungs in this case is usually chronic: the child loses flesh,—becomes the subject of an irregular hectic fever; and when the thoracic symptoms at length become more apparent than at first they had been, and the cough grows more frequent and attended with more expectoration, the case so closely resembles one of tubercular phthisis that it is exceedingly difficult to avoid an erroneous diagnosis.

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* See Lecture XX., in the Gazette for January 28, 1848.

The *treatment* of measles is usually very simple: in mild cases, indeed, little is needed beyond confinement to a warm chamber, a spare diet, and gentle antiphlogistic remedies. The cough, which is the most troublesome symptom,—frequently, indeed, the only one that calls for much attention, — is often very much relieved by the application, for three or four hours, of a small blister, no bigger than a shilling, to the trachea, at the point just above the sternum; and this slight counter-irritation, which seldom produces any vesication of the surface, may be repeated during the course of the affection. If more than this be needed, small doses of antimonial and ipecacuanha wine, with laudanum or the compound tincture of camphor, may be given every few hours. The imperfect desquamation that sometimes takes place as the eruption declines, is often attended with very distressing itching of the whole surface; while the cough is sometimes frequent and troublesome at night, and the child is thus prevented from sleeping. To relieve these troublesome symptoms, as well as to check that tendency to diarrhœa which often comes on at the decline of measles, it is desirable to follow the plan pursued by Sydenham, and to give an opiate every night,—a small dose of Dover's powder being the best form in which it can be administered.

But though these simple measures are amply sufficient in the great majority of cases, we yet must not allow ourselves to be betrayed into inertness when any indications of mischief in the chest make their appearance. Such symptoms sometimes come on early in the disease, and before the eruption has well appeared, the child seeming much oppressed, and experiencing considerable dyspnœa, although the auscultatory evidences of disease in the chest may be but small. This nervous dyspnœa is often relieved by the application of a mustard poultice to the chest, and by placing the child in a hot bath —a proceeding which will very frequently be followed by the appearance of the rash abundantly over the whole surface. Should these measures, however, fail to produce relief, or should the symptoms from the first be alarming, the distress and dyspnœa very considerable, and the rash not merely scanty, but of a dark or livid hue wherever it has appeared, the abstraction of blood is urgently required; and general depletion should, under such circumstances, be employed in preference to merely local bleeding. When bronchitis or pneumonia comes on at a later period of the disease, when the rash has already fully appeared, or is beginning to decline, the question of bleeding, as well as of the mode in which the depletion shall be practised, must be determined entirely by the severity of the chest symptoms, and is little if at all modified by any considerations drawn from the circumstance of their coming on during the course of another disease. The unfavourable conditions under which infants are placed in the Hôpital des Enfans at Paris, has induced, on the part of French physicians, a dread of depletion in the course of measles which is certainly not justified by the characters that the disease presents in this country. A repetition of depletion is, however, not generally either necessary or useful, especially if the first abstraction of blood be followed up, as it ought to be, by the free employment of the tartar emetic. The dyspnœa which is frequently exacerbated towards evening in the course of the pneumonia and bronchitis that accompany measles, is generally much relieved by mustard poultices; but the application of blisters under these circumstances is hazardous, since the sores which they produce are often very intractable; and the irritation and suffering they occasion proves, in many instances, seriously prejudicial to the children. It is important, too, to bear in mind that little reliance can be placed on mercurial remedies in the treatment of active rubeolous pneumonia, though small doses of the Hydr. c Cretâ, with Dover's powder, are often exceedingly useful in cases where a hepatized state of the lung is left behind after the subsidence of the fever, and of the more acute inflammatory symptoms. I spoke so fully some days since concerning the treatment of croup supervening on measles, that it cannot be necessary to repeat the remarks which were then made; neither need I add anything to what I said on a former occasion about cancrum oris—which distressing affection occasionally supervenes on the decline of measles.

I will now, in conclusion, briefly sketch the more striking features of *scarlet fever.* To describe it minutely would indeed require much time, for there are few diseases whose characters vary so widely in different instances. In one case it presents itself as an ailment so trifling as scarcely to interrupt a child's cheerfulness even for a day; in another case it is so deadly that medicine is unable to stay its course even for a moment; and that it destroys life in a few days—sometimes even in a few hours. Such a disease might seem to merit a very minute investigation at our hands: and on this it would be my duty to enter, did I not feel that after all that has been written on the subject of the eruptive fevers, it will be enough for me on the present occasion to recal to your recollection some of those points concerning each of them which are of the greatest practical moment.

It is hardly necessary to remind you that the remarkable differences in the severity of the affection, and in the symptoms which attend it, have given rise to its subdivision into the three varieties of scarlatina simplex, scarlatina anginosa, and scarlatina maligna. In the first of these the patient experiences an attack of fever, often very mild, always of very short duration, and accompanied by the appearance of a bright scarlet rash over the whole surface, and generally by a slight degree of sore throat. In the second the fever is more intense, and subsides less speedily, while, as its name implies, the attendant sore-throat is very severe: and in the third the fever generally assumes a typhoid character, sloughing of the inflamed tonsils not unfrequently occurs, and a variety of complications in many instances supervene, by which the patient's danger is still further aggravated.

In cases of moderate severity the attack of scarlet fever is usually ushered in by vomiting, which is in many instances often repeated, and which is accompanied by very intense heat of skin, by great rapidity of the pulse, by headache or heaviness of the head; and by so considerable a degree of sensorial disturbance as to give rise to delirium in many children who are old enough to manifest this symptom. On the following day, often within twenty-four hours from the commencement of the patient's illness, the rash of scarlatina makes its appearance. It usually shews itself first on the neck, breast, and face, whence it extends, in the course of twenty-four hours, to the trunk and extremities. Its colour is a very bright red, due in part to a general flush of the skin, in part to the presence of innumerable red dots or spots, which look like minute red papillæ, though often they communicate no sense of roughness to the hand. To this, however, there are occasional exceptions: the rash on the chest and body presenting sometimes, when at its height, a slightly papular character; and now and then minute sudamina are intermingled with the eruption. In some instances the redness of the surface is universal, but in other cases the rash appears in patches of uncertain size and irregular form on the trunk; but these patches never affect any definite shape, and never present a clearly circumscribed margin. For three days the rash usually continues to become of a deeper colour, and more generally diffused over the whole surface; it then slowly declines, but does not wholly disappear until the seventh, or sometimes the eighth day of the disease. The appearance of the eruption is not in general succeeded by any immediate diminution in the other symptoms; but on the contrary, they often increase in severity until the eruption has reached its acme, when they slowly decline with the disappearance of the rash. Sometimes, indeed, when the case is very mild, the fever abates so soon as the rash is fully out; and the child regaining its cheerfulness on the third day, shews no further sign of illness, though the rash remains visible for two or three days longer. Now and then, too, especially in young infants, the affection throughout consists of little more than of an eruption on the skin, the presence of which is almost the only evidence of their having been attacked by a disease sometimes so deadly. Such, however, are exceptional cases; and in most instances, even when the disease is mild, a slight degree of soreness of the throat comes on on the second or third day, the palate and tonsils appear red, and the latter are generally somewhat swollen, and deglutition is slightly impeded. The tongue also is preternaturally red, and its papillæ, which are very prominent, project through the white or yellowish fur which coats it, and thus form an appearance as characteristic of scarlatina as the rash itself. The redness fades from the fauces, and the fur disappears from the tongue, as the eruption declines; but the prominence of the papillæ often continues for some days longer. As the rash subsides, that process of desquamation of the epidermis generally commences, the uninterrupted performance of which I mentioned to you a few days ago as so essential to the complete recovery of a person convalescent from scarlet fever. The cuticle peels off from the hands and feet in large flakes, but on the face and trunk the desquamation usually takes place in furfuraceous scales. Both its degree and duration vary much in different cases: sometimes it is over in five or six days; while in other cases the cuticle is reproduced, and then desquamates several times in succession, and the process is thus protracted for three or four weeks, or even longer. It is not possible to assign a cause for these differences. Some epidemics of scarlatina are characterised by the abundance of the desquamation, and its almost universal occurrence, while at other times it is scanty, and often wanting.

The danger of this disease is by no means in proportion to the abundance of the rash, but rather to the degree of the affection of the throat, the severity of which is the distinguishing feature of *scarlatina anginosa.* In this form of the affection the premonitory symptoms are usually much more severe than in the scarlatina simplex: they are also often of longer duration, the rash not shewing itself until the end of the second, and sometimes even not until the third day. It is, moreover, less generally diffused over the surface than in the milder form of the disease, but appears in the form of large scarlet patches irregularly distributed over different parts of the body, especially on the back. Almost from the commencement of the patient's illness, soreness of the throat is experienced, attended with difficulty of deglutition, and often with considerable stiffness of the neck, and pain and difficulty in moving the lower jaw, due in part to the swelling of the submaxillary glands. On examining the throat, it is seen to be intensely red, and the tonsils both red and swollen. The swelling of the tonsils increases rapidly, until they almost block up the entrance to the pharynx, and thereby render the attempt to swallow so difficult that fluids are often returned by the nose. An adhesive mucus collects about the back of the throat, and often seems to cause great annoyance to the patient, and specks or patches of lymph form upon the tonsils, and look like sloughs covering ulcers, though, on detaching them, it is seldom that any breach of surface appears beneath. In some of the severest cases, a very troublesome coryza comes on, and an adhesive, yellowish, matter is secreted in abundance by the mucous membrane of the nares, whence it runs down upon the upper lip, excoriating the skin over which it passes, and causing still more serious suffering by the obstacle which it presents to free respiration. In some epidemics the inflammation extends to the parotid glands, and to the cellular tissue about the neck, the parts thus affected becoming rapidly swollen, acquiring a great size and a stony hardness. In some cases this affection is confined to one side; in others, both sides are attacked in succession, while sometimes the two are involved simultaneously; and the integuments under the chin and in front of the neck becoming likewise inflamed, and tense and swollen, the lower jaw is so firmly fixed, that the attempt to swallow is rendered almost impracticable, and the patient is exposed to a new source of danger, from the difficulty of taking nutriment in quantity sufficient to support the feeble powers of life. Coupled with this severe local affection, there is, as might be expected, a corresponding intensity in the constitutional disturbance. The heat of skin is very great, the pulse extremely frequent, and, though not small, is yet from an early period very easily compressed; the sensorial disturbance is considerable, and the restlessness extreme. The tongue does not present that appearance which I mentioned as being characteristic of scarlatina in its milder form, but is coated with a dirty brown fur, though red at its tip and edges, and often becomes dry at a very early period of the disease,—partly, no doubt, in consequence of the swelling of the tonsils and of the glands, compelling the patient to breathe with his mouth open.

Between the severer forms of scarlatina anginosa and that still more dangerous variety of the disease to which the name of *malignant* has been applied, the differences are of degree rather than of kind. Symptoms such as have been just enumerated are present in many cases of malignant scarlet fever; but the fever very early assumes a typhoid character, and death takes place sooner than the amount of the local lesions suffices to explain; whilst in the scarlatina anginosa a direct proportion always exists between the severity of the local mischief and the degree of constitutional disturbance.

A little girl, 5 years old, went to bed quite well on the night of the 20th May, but awoke vomiting at 4 A.M. on the 21st. Through the whole of the 21st, the child seemed very ill, and her bowels were much purged. Towards evening, a red rash appeared on her body, and she complained of sore throat. On the following day the soreness of her throat increased, and the submaxillary glands began to swell. On the 23d I saw her: she was lying in her mother's lap, with her face of a deep scarlet, verging on a crimson hue, and the rash, which was generally diffused over the whole body, presented the same colour; her eyes were half open, and the conjunctivæ injected; the submaxillary glands somewhat swollen; the tonsils very red, covered with shreds of mucus; deglutition difficult; respiration hurried; pulse too frequent and too feeble to be counted. She had been delirious during the whole of the preceding night. Ammonia was given in doses of gr. iij. every four hours; but at 4 P.M. on the 24th, I found her lying on her back in a semi-comatose condition, though capable of being roused; her surface quite cool, of a generally livid red colour; her pulse exceedingly feeble; her respiration noisy and difficult, rendered so in part by an abundant secretion of yellow adhesive matter in the nares. The swelling on the right side of the throat was much the same as on the previous day, but the left parotid was greatly swollen, and of a stony hardness; the tonsils were more swollen; deglutition difficult, and a large quantity of tenacious mucus was collected about the fauces. The diarrhœa still continued, and at 10 o'clock the same night the poor child died, within 90 hours from the commencement of her illness.

Although the affection of the throat was in this case rapidly on the increase, yet it was not to that alone that the child's death could be attributed, but rather to the depression of all the vital powers, which was so considerable that, on my first visit to the child, little more than forty-eight hours after her seizure, the pulse could no longer be counted. Even in the malignant form of scarlatina, however, it is seldom that death takes place so early, but the patient more commonly survives to the end of the sixth or seventh day, and, under these circumstances, the affection of the throat generally goes on increasing in severity. The inflammation of the tonsils terminates in the formation of several small, but excavated, unhealthy ulcerations, or sometimes a more extensive sloughing involves the parts at the back of the throat. The coryza to which reference was made just now is generally very severe, and both that and the swelling of the parotids add greatly to the patient's sufferings. These glandular swellings are remarkable for the stony hardness which they present, and for the very slight tendency which they shew to suppurate, and, if matter form, it is usually in the cellular tissue about the glands, not in the glands themselves. Although the affection of the nares and fauces, and the swelling of the parotid glands, often present a very serious obstacle to respiration, yet true croupal symptoms are not of common occurrence; and in the epidemics which I have witnessed in London, I have not met with either diphtheritis or œdema of the glottis. You must remember, however, that in almost every epidemic of scarlatina there is some peculiarity in the course that the disease takes, and that those complications which one year are frequent and perilous, are in another year but seldom met with, or attended with comparatively little danger.

Even though the patient should survive the immediate peril of the fever, a long catalogue of sequelæ remains, some of which may endanger or even destroy life. Sometimes, indeed, the patient passes through the first week of the disease with few or no symptoms to excite anxiety; and then, when the rash is already on the decline, swelling of the parotid glands comes on; sloughing ulcers form on the tonsils, which had not seemed to be very much inflamed previously; an acrid discharge takes place from the nostrils, and death follows in the course of four or five days. In the majority of instances, however, the glandular swellings which come on after the lapse of a week from the commencement of the disease, though tedious and painful, yet do not endanger life. Occasionally, indeed, death occurs in consequence of the matter formed by the inflammation of the glands, or of the cellular tissue around them, burrowing backwards behind the pharynx, instead of pointing externally. In these cases of retro-pharyngeal abscess, after more or less evident indications of inflammation in the neighbourhood of the parotid or submaxillary glands, accompanied, in all probability, with a swelling on one or other side of the neck or jaw, the patient begins to experience difficulty in deglutition, which goes on increasing until the attempt to swallow becomes quite impracticable. As the dysphagia increases, respiration becomes also very difficult, but the dyspnœa continues to increase progressively, and is not aggravated in paroxysms, as in cases of cynanche trachealis, though the effort to swallow will sometimes bring on threatening suffocation. Moreover, there is seldom any modification in the tone of the voice, such as occurs in croup, though the voice becomes by degrees whispering and then extinct: while if the throat be examined, the tonsils are observed to be free from swelling; and sometimes neither they nor the soft palate show the slightest increase in redness or other token of inflammation. The general symptoms, coupled with the negative results afforded by examination of the fauces, point tolerably plainly to the real nature of this affection; but positive certainty concerning it can be obtained only by a means which Mr. O'Ferrall, of Dublin, was, to the best of my knowledge, the first to point out, and which consists in passing the finger for some distance down the throat, when the presence of a tumor pressing forward the posterior wall of the pharynx or œsophagus, will at once reveal the cause of the patient's sufferings.

Coupled with the swelling of the parotid glands, and sometimes independently of it, inflammation of the internal ear is sometimes met with as a consequence of scarlatina. This otitis terminates in abundant purulent discharge, which sometimes continues for many weeks; and occasionally it completely destroys the organ of hearing, and renders the patient hopelessly deaf for the remainder of his life. Another, but fortunately a very rare, sequela of the disease is the inflammation of some of the larger joints. One instance only of this has come under my notice; in the case of a little boy whose right humerus became permanently anchylosed to the scapula, in consequence of inflammation which attacked his shoulder-joint after scarlet fever.

I have already spoken, in a previous lecture, of that very frequent and very serious occurrence, the dropsy which succeeds to scarlet fever, and need not, therefore, refer to that subject now. But there are other cases in which, without any definite local complication, the convalescence from scarlet fever is fluctuating and protracted. In such cases the bowels are irregular in their action, alternately relaxed and constipated; the evacuations unhealthy; the tongue red and raw; and aphthous ulcerations sometimes appear on the inside of the mouth; while an irregularly remittent fever harasses and weakens the child. These symptoms, however, which closely resemble those which sometimes come on during convalescence from measles, are of much less frequent occurrence as consequences of scarlatina.

The *diagnosis* of scarlatina is not in general attended with much difficulty; and the points of difference between it and measles are so well marked, that it does not seem easy to understand how the two diseases should so long have been confounded together. Their period of incubation is different; that of scarlatina not exceeding a week, that of measles often extending to two. Their premonitory symptoms are very dissimilar—that of measles closely resembling the signs of a severe catarrh; while the attack of scarlatina is announced by sickness, succeeded by intense heat of skin, by sore throat, great sensorial disturbance, and extreme rapidity of the pulse. There is no other disease of childhood, indeed, in which the two last-named symptoms supervene so speedily after the commencement of illness; and their appearance will often enable you, even before the appearance of the rash, or any complaint of sore-throat, to form a correct conclusion with reference to the nature of the affection. The premonitory stage of measles usually continues for three or four days—that of scarlet fever, in its regular form, only for twenty-four hours; while the other symptoms which appear in cases of scarlet fever, in which the rash is delayed, are such as quite to forbid the supposition of the patient being affected with measles. The character of the two eruptions is so dissimilar, that I need not here dwell on their peculiarities, nor do more than remind you that, while in measles the great danger to life arises from the supervention of bronchitis or pneumonia, the two great sources of hazard in scarlet fever, are the affection of the throat during its progress, and the occurrence of dropsy after its decline.[*]

With a few words on the *treatment* of scarlatina, I will bring this subject, and the present course of lectures, to a close. The milder forms of the disease require, as you know, but little interference; and you fulfil every indication by keeping the child in a cool and well-ventilated chamber, placing him on a spare diet, giving some mild antiphlogistic medicine during the progress of the fever, and sponging the surface occasionally with tepid water if the heat of the skin be considerable. When the eruption is on the decline, the hot bath every night is often very useful in favouring the process of desquamation; while the child must be kept strictly within doors, his diet must still be mild and unstimulating, and due attention must be paid to the state of the bowels until the period has passed when there is much ground for fearing the supervention of dropsy. For some time after, much caution must be exercised in not allowing the child to go out when the air is cool, and in avoiding all errors of diet; while it is also expedient that flannel should be worn next the skin for some time after apparent convalescence from scarlet fever.

Even in severer cases of the disease, you must not be in too great a hurry to resort to active measures, for you will remember that a somewhat stormy onset is characteristic of all but the very mildest form of scarlatina. That disturbance of the sensorium, for instance, which, when the child is sufficiently old, shows itself by the early occurrence of delirium, must not lead you to have recourse hastily to depletion, either general or local, in order to quiet the disorder of the brain. The results afforded by depletion in scarlet fever, even when the disease occurs in the adult, are by no means encouraging, and in the child the loss of blood under these circumstances is even less well borne; so that, unless the patient be robust and plethoric, the cerebral disturbance very serious, and the evidences of congestion of the brain very marked, you should content yourselves with the application of cold to the head, perhaps employing cold affusion, and with cold sponging of the surface. In the malignant forms of the disease there is often very considerable disturbance of sensorium, great restlessness, alternating with a state of stupor; but the frequent and feeble pulse at once forbids depletion in such cases, and points out the necessity for adopting every means to support the feeble powers of life. If there be much sore-throat, and the child seem likely to bear the loss of a little blood, I sometimes apply a few leeches to the angle of the jaw; but have hardly ever carried depletion beyond this point among my patients at the Children's Infirmary. It is very likely that the low type which a disease such as scarlatina is almost sure to assume in the crowded dwellings of the poor, has rendered my practice, in this respect, somewhat different from that which might be advantageously pursued in the case of children more favourably situated. To the same circumstance it is also probably due that in a large proportion of cases I have found it desirable to give ammonia almost from the outset of the disease; a practice which has been recommended as universally applicable, and which (though the remedy does not deserve the too indiscriminate encomiums that have been lavished on it) you will do well to follow, whenever the pulse presents the characters of frequency and softness combined. The state of the throat must be carefully watched in every case of scarlet fever: and whenever there is much swelling of the tonsils, if the child be too young to gargle, a slightly acidulated lotion should be injected into the back of the throat, by means of a syringe, every few hours, in order to free it from the mucus which is so apt to collect there, and to be the source of much discomfort. If there be much deposit of lymph upon the tonsils, it is generally desirable to apply the strong hydrochloric acid, mixed with honey, in the proportion of about one part of the former to six of the latter, by means of a dossil of lint, or a camel's-hair pencil, two or three times in the twenty-four hours; but the strength of the application must be increased if the tonsils be ulcerated, or if any disposition to sloughing should appear. The coryza which is so distressing and so ill-omened a symptom in cases of severe scarlatina, is best treated by throwing a small quantity of a solution of gr.j. or gr.ij. of nitrate of silver in ℥j. of distilled water, up the nostrils every four or every six hours. The glandular swellings are very difficult to relieve. When considerable they do not seem to be benefited by leeches; the employment of which is also, in many cases, contraindicated by the feeble state of the patient's powers; while they show very little disposition to suppurate, and consequently are not relieved by lancing: so that the constant application of a warm poultice is often all that can be done to afford ease to the patient. Children in whom the local affection is severe, or in whom the disease assumes a malignant character, require all those stimulants, and that nutritious diet, which we are accustomed to give to patients in certain stages of typhus fever; though, unfortunately, the best devised means will, in many such cases, prove ineffectual.

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[*] I have purposely omitted to say any thing concerning the diagnosis between scarlatina and the kindred exanthema, called Rötheln by German writers (the rubeolæ of some continental nosologists who restrict the term morbilli to measles); for though I believe there to be a foundation for this distinction, my own opportunities have not enabled me to come to any positive conclusion on the subject.

CLINICAL LECTURE
ON
PARALYSIS,

Delivered at King's College Hospital,

By R. B. Todd, M.D. F.R.S.

Physician to the Hospital.

(Reported by Mr. S. J. A. Salter, A.K.C.)

Lecture III.

In the lecture, gentlemen, that I shall deliver to you to-day, I have to direct your attention to the concluding history of the two cases of diseased brain which I brought before you in my last lecture. Both of these cases have terminated fatally, as we had anticipated; and we have thus the opportunity of comparing the diseased condition of the brain with the symptoms noticed during life.

The first of these cases was that of a man named Hardwick. You will remember that he was suffering from hemiplegia, with rigidity of the paralysed muscles; and you must also recollect that we treated him with galvanism, and, as is usually the case where there is recent rigidity of the paralysed muscles, they were more affected by the galvanic current than those upon the sound side,—a circumstance which is due, as I think, to the exalted polarity of the nerves supplying the rigid muscles. You will recollect, further, that we derived from the application of the galvanism some aid to our diagnosis, and drew, from its greater influence on the palsied than on the sound limb, the inference that the lesion of the brain was one of an irritative kind. In the diagnosis that I then gave of this case, I said I believed it to be one of meningeal disease primarily, and that the brain itself was secondarily affected. This patient's death was preceded by symptoms of effusion: he became comatose for a day or two previous to his death. Upon making a post-mortem examination, we found effusion into the lateral ventricles: it was evidently recent, for the brain did not appear to have suffered much compression from its presence.

In making the diagnosis in this case, you will remember that I spoke with confidence respecting *the nature* of the disease, but hesitatingly as to *its locality*. The various segments of the encephalon are so closely connected with each other by commissural and other fibres, that the parts in the immediate vicinity of the diseased part sympathize with it to a very great extent—almost as much as if they were themselves diseased. Hence it is that it is very difficult, and sometimes impossible, to distinguish disease of the optic thalamus from disease of the corpus striatum, the intimate union of these two bodies causing a close sympathy between them, and that lesion of the hemispheres, if situate close to the corpus striatum, gives rise to symptoms similar to those which would arise from disease of that body itself; and, for the same reason, deep-seated lesion of the cerebellum causes the same symptoms as would be caused by lesion of one side of the pons Varolii. On this account it is that you will find it exceedingly difficult to diagnose the exact locality of cerebral lesions. Certain broad distinctions may be sufficiently accurately made with due attention to the general principles which physiology points out as to the functions of the great subdivisions of the brain; but I look upon it as impossible to determine the position of cerebral lesions with that minuteness of accuracy with which we can discover the locality of lesions of other organs—the lungs, for instance.

I stated to you that we should probably find in this case the disease principally located in the dura mater, the arachnoid, and pia mater, near the fissure of Sylvius, and at a part corresponding to the squamous portion of the temporal bone. I also thought that the optic nerves or optic tracts, and the third nerves, would be involved in the disease, either at their origin or in some part of their course. I was principally influenced in coming to this conclusion, as far as regards the meningeal disease, from the fixed pain which the patient suffered about the squamous portion of the temporal bone, and just in front of the meatus auditorius externus. I had at first thought that the optic thalamus was the principal seat of the disease; but this opinion I afterwards gave up from observing the intensity and constancy of position of the pain; and though I was quite prepared to find disease of a part so nearly connected with the optic, and the third pair of nerves as the optic thalamus, still I did not give it that importance which I had at first deemed it worthy of, and which our post-mortem examination showed that it really deserved.

I particularly wish to call your attention, gentlemen, to this subject now, while the details of the post-mortem examination are fresh upon your memories; and the more so because the diagnosis does not appear to have been quite exact. It is a duty we owe ourselves to scrutinize particularly any errors we commit, either in diagnosis or practice. Depend upon it, if you do this faithfully, you will derive great benefit from it: your experience will be infinitely more profitable than if you slur over your mistakes without explanation or inquiry. On this account, I make it a rule never to pass by any mistake made here in diagnosis or practice; and I feel that in commenting upon such to you, I am far more likely to benefit both you and myself, than were I to dilate at length upon successful cases. The successful cases speak for themselves; the failures we would fain throw a veil over: but be assured, in so doing, we benefit neither science nor ourselves.

A diagnosis may be erroneous in two ways: one in which it is altogether incorrect; the other, where the principles upon which the diagnosis is conducted are sound, and have not been violated, but still the details of the diagnosis may not be absolutely correct. The first of these is likely to happen when our examination of the patient's condition has not been sufficiently careful; and when we have neglected to question him as to his symptoms with all that accurate scrutiny by which alone we can expect to ascertain what is his real state;—or where the information supplied to us, notwithstanding careful inquiry, has been incomplete or inaccurate; but the second may occur from the absence of symptoms of a sufficiently distinctive character to give us the precise information we require, or where the attention has been unduly occupied by the inordinate development of some particular symptom: I say that, under such circumstances, although our diagnosis has been conducted upon perfectly sound principles, it may still be erroneous in detail,. Now I must tell you that, in this case, the diagnosis has been perfectly correct in principle, but erroneous in some of the details; and I think the error has been caused partly by the difficulty to which I have already alluded of determining the precise locality of lesions in brain disease, and partly to the prominence which the pain assumed, and to its very local character, pointing to a spot not exactly corresponding with that at which the disease was situated.

I founded my diagnosis principally upon the *pain*, the *imperfect* paralysis, and the spastic state of the muscles, denoting that the paralysing lesion was of a kind which likewise caused *nervous irritation*. Acute pain of the head is a symptom which indicates the site of the disease as either in the membranes themselves, or in some superficial part of the brain in contact with them; and it very commonly is felt at the same spot in the head as corresponds to the diseased part within the skull. Again, the imperfect character of the paralysis indicated that the morbid change was of some superficial part; for we find that the most complete paralyses are those caused by deep lesion—the nearer the lesion is to the surface, or the further it is from the corpus striatum and the crura cerebri, the less the paralysis, and *vice versâ*: and experience has also shown, that an irritated state of the nerves and of the muscles of the palsied part is most frequently connected with superficial lesionof the brain, or with disease of the membranes.

I shall now detail to you the results disclosed by the post-mortem examination, and point out how far they correspond or differ from the diagnosis formed during the life of the patient.

In the first place, we found that the disease was on the *left* side of the brain, the opposite to that on which the palsy existed, —so far principles have not been violated; next, we found extensive *meningeal* disease, this also comporting with the inference which principles led us to draw from the persistence and the severity of the pain on the left side of the head; thirdly, we ascertained that the disease was *inflammatory*, for the products of inflammation were distinctly developed,—and, in this point likewise, the diagnosis was correct in principle.

It was wrong, however, in assigning the dura mater as being involved in the disease, for this membrane was healthy; and it was equally wrong in fixing the site of the disease as at the anterior inferior angle of the parietal bone; it failed, likewise, in not having indicated that the optic thalamus was the part of the brain secondarily affected by the meningeal disease.

The membrane principally diseased was the pia mater, and that part of the arachnoid connected with it, just where, at the fissure of Bichat, the former membrane is extended into the ventricles of the brain as the velum interpositum, passing over the quadigeminal bodies, and closely connected with the optic thalamus. Here the pia mater was much thickened by the deposition of lymph: it was extremely red, and its vessels much enlarged. It formed, indeed, quite a large, soft, vascular tumor, which must have exerted a good deal of irritating pressure on the subjacent nervous matter. In this disease of the pia mater there was quite enough to explain the severe pain in the head, and the other signs of irritation present; but it is difficult to understand the precise localisation of it to a part so much anterior to the seat of disease as the anterior superior angle of the parietal bone; and this circumstance no doubt contributed very much to lead us astray. The optic thalamus on the diseased side appeared to be double its natural size, and by its great bulk compressed the crus cerebri of that side, which became flattened out by the pressure, and obliterated the locus perforatus. The crus cerebri of the right side must likewise have suffered some compression. This extensive compression necessarily affected the third pair of nerves on both sides, chiefly, of course, on the left; and thus we obtained a satisfactory explanation of the peculiar convulsive movements of the eyeballs which this patient exhibited.

The corpus striatum was essentially healthy, but somewhat, though slightly, compressed; and its function was probably weakened.

The great augmentation of size in the optic thalamus in this case was more apparent than real; for, in truth, the thalamus itself was in part wasted. A large quantity of new material was deposited beneath the inflamed pia mater, which added considerably to the apparent bulk of the thalamus. In cutting into this body it was found to be at one part soft and gelatinous, and at another indurated. The first portion was that in immediate connection with the pia mater, and consisted of more or less perfectly formed pus. The second portion, which consisted of the posterior third of the optic thalamus, exhibited much change in the proper texture of this part of the brain. At one part, quite close to its posterior extremity, there was a small cyst about the size of a pea, which contained pure pus, as determined by the microscope. Here and there we found minute spots of opaque, somewhat gritty matter, in which the microscope detected masses of phosphate of lime. Similar concretions of phosphate of lime were found in the diseased pia mater.

This indurated portion of the optic thalamus was submitted to chemical analysis, by my friend and pupil, Mr. Lionel Beale, jun., to whose skill and expertness as an analytic chemist I have been indebted on several occasions. He found that the indurated portion of the thalamus contained as much as 6·9 per cent. of the phosphatic salts; healthy cerebral matter containing, according to F. Simon, no more than 0·1 per cent. This remarkable retention of the phosphates in the diseased portion is no doubt connected with inflammation, and the arrest in the proper nutrient changes produced by it.

Thus the post-mortem inspection afforded us the most satisfactory evidence of the inflammatory nature of the cerebral lesion: the red and thick pia mater,—the puriform matter beneath it and upon the optic thalamus,—the cyst in this body containing pus, —the indurated portion of the thalamus: all these were signs of cerebral inflammation which even the most sceptical could not gainsay.

And it likewise proved the correctness of the diagnosis as to the cause of the paralysis. You will remember that I stated that the paralysis was caused by pressure, exerted not immediately, but indirectly, on the centre of volition. The pressure was found to be exerted on the optic thalamus, and through it on the corpus striatum and the inferior layer of the crus cerebri, both of which parts form a portion of the great centre of volition.

The inflammatory or irritative nature of the paralysing lesion corresponds in the most interesting manner with the augmented excitability of the paralysed muscles to galvanism, as we had ascertained more than once during the life of the patient. The explanation of this augmented excitability which seems to me to be the correct one, is this, not that the muscles have experienced any augmentation in their irritability, but that the polarity of the nerves is augmented by the propagation of irritation from the compressed and inflamed brain to that segment of the cord in which they are implanted. The nerves, in these cases, are more or less in the condition into which they are apt to be thrown by strychnine: their vital force—their polarity—is exalted, and they are excitable by the slightest stimulus.

In fine, we learn from the review of this case that our diagnosis was sufficiently correct for all practical purposes—that, following the general principles which our present knowledge of cerebral physiology indicates, we obtained all the information we could desire for the proper treatment of the case. This treatment possibly might have been completely successful had the patient been submitted to it at a sufficiently early period.

The subject of our second case, Catherine Williams, lingered on for some weeks; no improvement whatever took place in the condition of the paralytic limbs: they became extensively anasarcous, and the muscles extremely attenuated; and the patient died from sheer exhaustion.

The post-mortem inspection afforded very satisfactory proof of the correctness of the diagnosis in this case, both as to the nature and as to the locality of the lesion. The disease was in the very centre of the right corpus striatum, one-third of which must have been destroyed by it. The whole brain was shrunk; and the quantity of external fluid—subarachnoid effusion—was increased. Several of the arteries at the base of the brain were studded with atheromatous spots. The convolutions were small, and the sulci between them large.

The general shrinking of the brain explained the increased quantity of the subarachnoid fluid.

As to the nature of the disease: the middle third of the corpus striatum was excavated into a small cavity, which was filled by fluid and softened brain-substance, probably also by half-dissolved softened clots of blood. On examining the contents of this cyst by the microscope, we could find no trace of any inflammatory product; there were some remains of nerve tubes, and the rest consisted of an undefined granular matter, derived probably from the destruction of the vesicular matter of the corpus striatum.

I think there can be no doubt that in this case there was first simple softening, without any discolouration of the middle third of the corpus striatum; next came the giving way of some of the fibres of the corpus striatum, and, at the same time, the rupture of some small vessels, and the effusion of blood, not in large quantity. At this time the limbs became paralysed; and from the total destruction of the brain-substance in so important a part as the corpus striatum, and the entire absence of any reparative effort, they never evinced the least sign of improvement.

It would be difficult to find a more perfect example of a brain suffering from imperfect nutrition than this. No doubt the local softening was due to some defect in the local nutrition, the precise nature of which, however, we were not able to detect. The nerves of the paralytic limbs were no doubt depressed in their vital powers: the want of their wonted stimulus, the will, suffered them to fall into decay; and very probably the morbid state of the striated body exercised a depressing influence upon them. Hence their polarity was much below par; and the galvanic stimulus, which excited free action in the sound limbs, produced little or no effect on the paralysed limbs.

There is one point in which these cases present an interesting contrast with each other, to which I must allude before I conclude this lecture. The man, Hardwick, as you will remember, died comatose, and we found an undue quantity of fluid *within* the ventricles, and no subarachnoid fluid around the brain. The woman, Williams, died from exhaustion, without any symptom immediately referrible to the brain. In this case, the subarachnoid fluid was abundant, but there was no fluid in the ventricles.

You will find, I think I may say invariably, that the accumulation of fluid in the ventricles, when it exceeds a certain amount, produces coma. In the adult the comatose symptoms come on earlier, and with a less amount of effusion, than in the child, from the resisting nature of the cranial wall in the former, whilst, in the latter, the still open state of the fontanelles, and of some of the sutures, allows the skull to expand as the fluid in the ventricles increases in quantity.

On the other hand, the increase in the subarachnoid fluid is not in itself accompanied by any special symptoms. This augmentation of a fluid which naturally occupies the subarachnoid space, is due entirely to a shrinking or diminution in the bulk of the brain, from whatever cause; and its quantity bears, too, an inverse proportion to the bulk of the brain. You find it in large quantity in the crania of persons dying anæmic, and also when the brain has been much impaired in its nutrition, so as to cause a diminution of its bulk; and even if there be a local diminution of bulk, as when one or two convolutions have shrunk, or have sunk in from the destruction of the subjacent cerebral substance, you will find an accumulation of fluid opposite the shrunk or depressed convolutions.

ROYAL COLLEGE OF SURGEONS.

Gentlemen admitted members on the 18th inst.:—Messrs. S. W. Aldred—R. H. Hotham—G. B. Sweeting—R. W. Gillespie—J. G. Thompson—T. G. Copetake—C. B. Bassano—J. Stevenson—W. V. E. Reynolds—W. A. Jacob—B. E. Holwell—D. Asbury—J. H. Jerwood—and W. Naismith.

LECTURES,

Delivered at the London Ophthalmic Hospital, Moorfields, July 1847.

By William Bowman, F.R.S.

Lecture IV.

Of the Crystalline Lens.—*Position, shape, size—Anterior chamber small in infancy—Occasional consequence of this. Capsule of the Lens—Experiment illustrating its endosmodic power and its elasticity — Thickness not uniform — Proneness to opacity during life—Characters of the opacity. Body of the Lens—Its fibres and laminæ—Nucleus—Central planes—their use—their complexity in the human lens—Mode of union of the fibres—Use of the toothed margins — Intracapsular cells — The "liquor Morgagni" a result of disease or post-mortem change—The "capsule of the aqueous humour" does not exist—Remarks on some appearances of cataractous lenses.*

Gentlemen,—We proceed to-day with the consideration of the structure of the crystalline lens and its capsule—a subject not more interesting to the anatomist than to the ophthalmic surgeon, on account of the large share of his attention which that important and common disease, the cataract, must always engross.

The crystalline lens, you will remember, is placed at the front of the vitreous body behind the iris, and is held in place there chiefly by a special fibro-membranous suspensory apparatus passing between its capsule and the ciliary processes, but partly by its adhesion to that portion of the vitreous body which is hollowed out to receive it.

Size and shape.—The lens is an almost perfectly transparent structure, about one-third of an inch wide, and one-sixth of an inch thick, more convex behind than in front. It has been doubted whether the curves of the lens are spherical or spheroidal —a question of much interest with reference to the corrections of an optical nature of which the eye is the seat, but not strictly bearing on the object before us in these lectures. The most accurate admeasurements, however, of the mammalian lens, which are those of Chossat, make it probable that the figure of the human lens is like that generated by an ellipse revolving round its lesser axis, the curvature being greater for the lateral than for the central parts.

The lens in early life is soft and nearly spherical, and grows larger and flatter with age, as well as harder, and somewhat amber-coloured. These circumstances should be remembered with reference to the diseases of the part at the several periods of life. The globular shape of the infant's lens renders the aqueous chamber small, and the iris almost in contact with the cornea; but in the adult the iris is usually not at all thrown forwards by the prominent centre of the lens. Nevertheless, in persons of full or declining age, who are the common subjects of hard cataract, the surgeon is accustomed to meet with very varying dimensions of the anterior chamber. This, however, depends rather on variation in the size of the lens than in its shape, and sometimes a prominent iris betokens an enlarged vitreous body, or chronic engorgement of the ciliary body of the choroid. In consequence of the prominence of the lens in infancy, it sometimes acquires a minute opacity in the very centre or most prominent point of its anterior surface, from coming in contact with the cornea, where this membrane is inflamed in cases of purulent ophthalmia. There is often a corresponding speck on the posterior surface of the cornea, precisely opposite.

Of the capsule of the lens.—The lens is enclosed in a capsule of perfectly transparent, homogeneous, and very elastic membrane—a part that should engage the special study of every one who proposes to operate on the eye. It is an entire unbroken layer, separating the lens from all that surrounds it, but very permeable by fluids, and, therefore, the medium through which the nutrition of the lens is carried on. Its elasticity, which is one of its most remarkable properties, is evinced by a curious experiment which presented itself to me accidentally when I was occupied in a series of researches into the anatomy of these parts. When removed from the eye, and placed in water, the lens imbibes fluid through its capsule, which thereby becomes distended and separated from the contained lens, being raised in the form of a vesicle. If it be taken from the water, and punctured with a needle, the fluid is ejected with violence by the resilience of the distended capsule, which instantly resumes its former bulk, and grasps the lens closely. The capsule is also very brittle, is easily torn in any direction when once a breach is made in it, and yet very tough, so as to offer considerable resistance to a blunt instrument which may be thrust against it. We see these points exemplified in the operations for cataract and artificial pupil. In the former, when the sharp-pointed needle touches the capsule (provided the membrane be sound), it enters and tears it with the utmost facility; while in the latter, the blunt hook often used to engage and draw aside the pupillary margin of the iris seldom does any injury to the capsule, though it must almost always touch it, and that sometimes somewhat rudely, in spite of the operator's caution. When ruptured, the capsule rolls up at the edges, whatever the direction of the laceration, and it is curious that the outer or convex surface always lies innermost in the roll, so that, like the posterior elastic lamina of the cornea, which it nearly resembles in other respects, it appears to be developed or laid down in a curve contrary to that which its elasticity inclines it to assume. It is a hard and dense structure, and determines the exact outline of the lens.

Thickness of the capsule not uniform.—The thickness of the capsule of the lens is different in different parts; particularly it is thicker in front than behind. This I alluded to in the last lecture, in speaking of the suspensory ligament or zonule; but I shall here repeat it, because of its importance. The anterior part of the capsule in the greater portion of its extent, in all its central region, and as far outwards as to within one-sixteenth of an inch of its margin, where the suspensory ligament is attached, is four or five times thicker than the posterior part. The diminution in thickness commences rather suddenly at the attachment of the zonule, and continues gradually as you proceed over the border to the posterior surface, where the minimum thickness is soon attained. This I have ascertained by careful examination. I need hardly point out to you how a knowledge of this fact may help us to understand some of the morbid processes met with in this part, and, by indicating with precision the direction in which lies the chief strength of the support of the lens in its position, may aid the surgeon, and give him confidence in certain of his nice and delicate manipulations.

The capsule retains its transparency after death, but is prone to lose it during life.—The capsule of the lens retains its transparency under the action of acids, of alcohol, and of boiling water, and will resist the putrefactive process for a great length of time: at least, I have frequently found it remain transparent after the lens itself had been completely destroyed by putrefaction, and the centre of the lens is itself very slow to putrefy. But, however difficult it may be to render it opaque after removal, it is rather prone to become so in the living body. An injury, such as laceration or puncture, is there almost sure to be followed sooner or later by a loss of its transparency, and we often see it of a decided dead white. The same also occurs in many cases where the opacity is primarily in the lens itself. After the operation for cataract by the needle, this opaque capsule is a not infrequent source of annoyance to the surgeon, obstructing the access of light to the retina, and demanding removal.

This proneness of the capsule to become opaque only while it continues a part of the living body, seems to shew that, hard and structureless as it appears, it is yet the seat of unceasing nutritional change—that its substance is in continual flux; for we can only regard the opacity as a result of depraved nutrition, the new material being laid down in an abnormal form. In some rare examples, one of which presented itself here during the present summer, minute vessels are developed upon the capsule, probably in lymph previously deposited there as a consequence of inflammation. They are continuous with those of the ciliary processes or adherent iris. It is interesting to observe that the opacity is usually denser when it takes place in the anterior part of the capsule than when in the posterior, because of the greater thickness of the former portion. But, besides this, the anterior seems more prone to become opaque than the posterior. When opacity occurs, the capsule usually loses its brittleness, and becomes tough. The opacity assumes an irregular figure, in flakes or patches, if the body of the lens remains, and may thus be distinguished from a similar change in the lenticular substance; but the opacity is more uniform if the capsule has been rent and the body of the lens absorbed. The opaque parts may even become so completely altered from their original texture as to be the seat of earthy deposits; but this is rare.

Of the structure of the body of the lens.—If we now turn our attention to the lens itself, that solid transparent mass thus enclosed and protected, we find it to be soft and pulpy in the outer portions, more firm, dense, and glutinous towards the centre, which is distinguished as the nucleus. Not that there is any special plane of division between the nucleus of the lens and its exterior or superficial portions: the change to more and more density is very gradual. No language derived from other objects can adequately describe the precise texture of the lens, as appreciated by the finger, simply because it is not a homogeneous texture, but one highly complicated and peculiar, which it will require some attention to understand.

Fibres of the lens.—The lens is composed of flattish riband-like albuminous fibres, having an average thickness of $\frac{1}{5000}$ of an inch, united side by side, so as to form plates, which are placed one within the other, somewhat like the leaves of an onion. The fibres all pass from the front to the back, so that each has two extremities, an anterior and posterior; and a middle part, which is directed towards the side or rim of the lens. In the lens of simplest construction—the spherical or spheroidal lens of many fishes, reptiles, and birds—the ends of the fibres all meet in the antero-posterior axis; and the surface of such a lens, viewed either before or behind, has the appearance of a globe marked by the lines of longitude passing from pole to pole. The same appearance, too, is seen after removing any number of the layers of fibres down to the centre. The individual fibres are of course narrower at the extremities and broader in the middle; and they would come to quite a point in the axis were it not that their lateral union becomes so intimate as they approach it, that the eye can no longer distinguish them individually, nor the skill of the anatomist isolate them. Moreover, it would appear that those coming from opposite sides do not form a firm junction across the axis, but rather that the axis is occupied by a substance of less density than the fibres themselves; so that, under ordinary circumstances, the lens may be made to break up, and its opposite sides to fall asunder along that line. In the lenses I am now referring to it is not uncommon to find a cup-shaped depression—a kind of crater at each pole; but I have never seen this so large as in the prolate-spheroidal lens of the cuttle-fish.

Nucleus of the lens.—It is further to be observed that the individual fibres become narrower and denser, as well as more intimately held together, as they approach the centre of the lens; and it is obvious that they must also become shorter and shorter. The degree in which their density augments, varies, however, very widely: in the bird, for instance, it is far less than in the fish; so that the lens of the former is soft and pulpy, even to the centre, while the nucleus of the latter is often of almost stony hardness.

What I have now said as to the shape and texture of the lenticular fibres applies in general to the eyes of most animals. These fibres are always narrowest at their ends, shorter and denser towards the centre of the lens. The mode, however, in which their extremities are arranged at the poles, exhibits many very curious modifications, as to the use and meaning of which we are still very much in the dark, but which, in the meantime, will repay a few moments' attention as instances of elaborate mechanism, in which may be concealed some clue both to the nature of the nutritive changes in the organ, and possibly to the better comprehension of some of its morbid states, and the means for their relief. The effect, also, of these modifications of structure on the transmitted light should not be lost sight of in considering their design.

Central planes.—The first departure from the simple arrangement already mentioned—in which all the fibres diverge from, and terminate in, the antero-posterior axis of the lens—is met with in some fishes and some mammalia, of which the porpoise is one. Looking at the front of the lens we see a straight line passing through the pole, and reaching about one quarter or one-third of the way towards the margin or equator on each side. From this line the fibres diverge in an uniform manner, and passing over the edge, may be traced converging on the opposite surface to a line of similar length passing through the pole, but at right angles to the first,—so that if the one is vertical the other is horizontal. This being so, a moment's consideration will enable you to understand that none of the fibres reach half round the lens—that, for instance, one which starts from the anterior pole (or the centre of the anterior line) cannot reach the posterior pole, but terminates at the extremity of the posterior line; while one which starts from the end of the anterior line is necessarily brought to the posterior pole; and the intermediate ones in a similar manner, according to their position. Now, if we remove the more superficial strata of fibres, we still find the deeper-seated fibres diverging from similar lines, and discover, in fact, that the lines seen on the surfaces are but the edges of planes which penetrate even to the central region of the lens,—these planes being productions or expansions of that axis in which, in the spherical variety of lens, all the fibres meet.

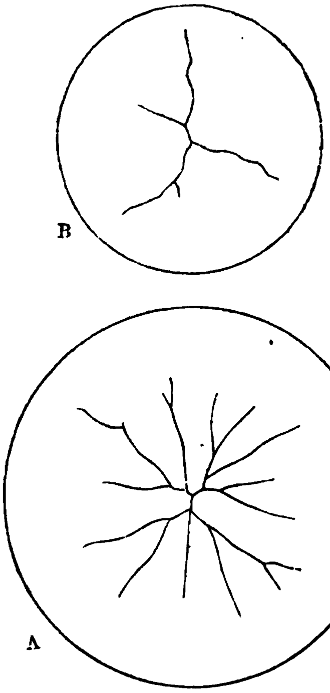
Object of the central planes.—These planes are widest where they appear on the surface of the lens, and are gradually narrower inwards; and those of opposite sides meet, although at right angles, somewhere in the antero-posterior axis, at a point the position of which (or in other words, the respective depth attained by the planes,) is determined by the various curvatures of the opposite surfaces of the lens. But as every fibre has in each plane a point answering to one of its extremities, it follows that the area of the two planes must in all probability be equal, and therefore that where one passes from the pole more deeply into the lens, the other must extend more widely towards the margin.

It certainly appears to me that the expansion of the axis into the planes now described, and the concomitant complexity of the arrangement of the fibrous constituents of the lens, are designed to furnish the mechanical means of producing a different curvature on opposite surfaces.

If we pass to the examination of other bases, further modifications of the axial planes, and consequently of the arrangement of the fibres, are met with. For example, in some of the cetacea I have found the planes to bifurcate irregularly, and to a variable extent, towards the margin of the lens —a disposition not, I believe, before observed; but the most elegant arrangement is certainly that of the mammalia in general, in which three equidistant planes diverge from the axis,—those of the front and back holding intermediate positions, precisely as in the more simple case already described.

Their complexity in the adult human lens. —But of all the specimens that have come under my own observation, those of the adult human lens have presented the greatest multiplication or subdivision of these planes; for while our own lens adheres to the ordinary mammalian type in possessing a triple divergence from the pole, each of the three planes is almost immediately branched, if I may use the term, and this not once only, but twice or more,—so that instead of three segments we have as many as twelve or sixteen, the numbers being irregular no less than the course, direction, and extent of each.—Fig. 11.

Fig. 11.



A. Division of central planes as seen on posterior surface of an adult human lens.
B. Same from the fœtus of nine months.

Fig. 11, copied with accuracy from an adult human lens, will convey a better idea of the arrangement of these planes than mere words can express; and if you will endeavour to picture the opposite surface as if seen through this one, and intersected with a somewhat similar radiation of planes, placed intermediately to these and receiving the opposite ends of the fibres, you will understand the extraordinary intricacy of the construction of this organ in our own eye.

Their simplicity in the human fœtus.—I may mention in this place an interesting fact which I noticed in comparing the fibres of the fœtal and adult lens in the human subject. It is this—that as development proceeds, and the lens becomes wider and flatter, the central planes extend themselves further and further from the axis, and at the same time branch again and again, so as to multiply the segments, into which they divide the lens.—See fig. 11.

From this it may be inferred that the multiplication of the mesial planes outwards is a process necessary to the expansion and flattening of the organ, and takes place by the deposition of new fibres on the surface of the old; and also, that even in the adult lens the planes remain simply tripartite in the nucleus, being only multiplied in the more superficial layers.

Having thus endeavoured to convey to you some general idea of the arrangement of the lenticular fibres, we will consider briefly the mode in which they are united into the forms I have described, and organically attached to the capsule,—for it would be a mistake to regard them, as we are apt to do, simply in the light of independent parts placed in artificial juxtaposition. And more especially is it necessary to consider the lens as a whole, if we would form a correct notion of the actions which contribute to the maintenance of its organic life, and comprehend the reason of the alterations of texture which it exhibits under accident or disease.

Mode of union of the fibres.—As the ends of the fibres approach the central planes in which they terminate, they are found to be more or less fused together into a solid hyaline mass, which retains for a short way only a trace of the interval between the contiguous fibres. Sometimes the fibres may be torn up as far as the central planes; at others they break off short, rather than split up, as they approach the planes: and this is more the case towards the nucleus. Near the planes, therefore, we cannot properly say that they have a well-defined border or limit; but in the intermediate portions of their extent their edges are found to be doubly bevilled, so that one fibre is adapted by each of its edges to two other fibres—one a little above, and the other a little below it; and if we consider these bevillings as separate sides, each fibre would be six-sided. But we further remark that the bevilled margins are more or less jagged, and that the projections and sinuosities of the opposed fibres mutually interlock. Thus each fibre is intimately united by its toothed edges to four others, and by its smooth flattened surfaces it touches two others—one over and the other under it. The lateral union of the fibres being the more intimate, determines the division of the lens into layers enclosed one within another, rather than into segments. But if we obtain a fortunate view of the fibres in situ and in section, it is easy to perceive that the lateral junctions of the fibres of successive layers lie in regular order one below another; and that if the splitting of the lens could be made to follow these joinings, we should reduce the organ to a number of segments, the thickness of which would correspond with the width of one fibre.

The indented margins of the fibres are much more obvious, and are no doubt really much more developed, in some classes of animals than in others. It was in the eye of the cod that Sir David Brewster first detected them, and they are nowhere more evident. The teeth have a certain average size; but, like those of the cranial sutures, they are irregular in shape, and have been manifestly formed by the shooting together of contiguous parts during growth. In the lens of the bird, and in that of mammalia and man, they are even less regular in size, and far less defined; and it is often difficult to see more than a soft woolly margin. The toothed borders are usually most apparent when the albuminous basis of the fibres has been hardened by heat, or a chemical reagent.

Use of the toothed margins of the fibres.—What, now, is the use of the serrations of the fibres of the lens, and why do they exist only at the sides? In the fish, which has the fibres very flat, and consequently with thin edges, and a small surface for lateral contact, the teeth are large, stiff, and well defined; whereas in the higher animals, where the fibres are thicker, and their bevilled edges present a broader surface of union with those on either hand, the teeth are softer and less developed: and in all cases the broad surfaces of the fibres are not toothed at all. We may therefore regard the serrations simply as an artificial mode of increasing the points of union between the fibres, according as their shape renders necessary. If the fibres had been six-sided, and the sides equal, we may suppose, either that there would have been no teeth at all, or, if any, that they would have been developed to an equal extent on all the sides. Thus far, perhaps, it is legitimate to speculate on the final cause of this remarkable and elegant structure.

Intra-capsular cells of the lens.—Immediately within the capsule, separating it from the superficial fibres, is a layer of cells, extremely thin and transparent, of unequal size, and nucleated. These cells form an organic union between the body of the lens and its capsule, and it is through them that the nutrition of the fibrous part is conducted. It is by the multiplication and successive transformation of these cells into fibres that the body of the lens increases in size; and when its growth is complete, a single layer of them remains. The superficial fibres, even of the adult, often retain some of the nuclei, in an extremely transparent form, at irregular distances in their substance.

The liquor Morgagni a result of disease or post-mortem change.—When, after death, the lens is placed in water, or allowed to lie in contact with the aqueous humour, the water passes through the capsule, and distends and bursts these cells, collecting between the lens and the capsule, and raising the capsule as I mentioned at an earlier period of the lecture; but no fluid exists during life between the capsule and fibres of the lens, except what belongs to the texture of the cells. There is, then, no such fluid as the *liquor Morgagni* in the healthy lens. When this fluid exists in the cataractous lens, between the body and the capsule, or when it is found there after death, it is to be regarded as a morbid or false condition, indicative of the destruction of the layer of cells which has been just described.

The "capsule of the aqueous humour" does not exist.—Some authors speak of another layer of cells on that portion of the outer surface of the capsule which contributes to form the posterior chamber of the aqueous humour behind the iris, and they consider it to resemble, and to be a continuation of, the epithelium lining the back of the cornea, and which I have termed the epithelium of the aqueous humour. Such a layer has been imagined necessary for the completion of that serous sac which has been very generally supposed to enclose the aqueous humour, and which has passed under the name of the *aqueous capsule, or capsule of the aqueous humour*. Now, with regard to its existence on the front of the lens, I can only say that I have sought for it with great care, but in vain; and I therefore do not believe that it exists. Taking the perfectly fresh eye of a large animal, I have removed the cornea by a circular cut with scissors, without allowing the cornea to touch or rub against the lens. I have then, with equal caution, cut away the iris, so as fully to expose the front of the lens; I have then most carefully made a circular incision in the front of the capsule, near its rim, and have placed the portion so detached on glass, flat or variously folded, and always without being able to distinguish any trace of such cells. Now, with far less nicety, it is most easy to see the posterior epithelium of the cornea, and the intra-capsular cells of the lens; and the evidence, therefore, seems to me sufficient for disbelieving in the existence of the layer now spoken of: particularly as I am not aware that any author who has described it has stated that he has actually seen it.

I shall now say a few words on some varieties of cataract, the appearances of which (capable of being discriminated during life) derive illustration from what I have now explained of the structure and arrangement of the lenticular fibres.

Remarks on some appearances of cataractous lenses.—The congenital opacity of the lens, so frequent in children, affects the entire substance. We may sometimes observe upon its front surface the simple trilinear division into segments which, in the human subject, is peculiar to early life.

In the commencing cataract of middle or declining age, we not uncommonly find the posterior surface of the lens first affected, so that we look through the transparent lens upon an obviously concave opacity. This opacity sometimes, and indeed generally, encroaches from the margin in distinct streaks of irregular thickness, length, number, and distance apart; and we usually find that, when the pupil is widely dilated by belladonna, some at least of these streaks are traceable round the margin for some way over the anterior surface. So long as small portions of the hinder surface of the lens remain clear, the body and front being also clear, it is surprising how much visual power may remain. At a subsequent period, the centre of the lens begins to be cloudy, and then the progress towards blindness is more rapid. Now I can entertain no doubt that the streaks in these cases are sets or bundles of the superficial layer of lenticular fibres, reduced to a state of opacity by some nutritional change. There seems to be a disposition in the fibres of the lens to become opaque in their entire length when once they are morbidly altered at a single point, and hence the linear figure of the opacity. The opacity, probably, commences in the middle part of the fibres, near the margin of the lens; and the arrangement of the fibres would account for the different length of the streaks, some approaching nearer than others to the central point on the surface.

In another variety of opacity in adults, closely allied to the last, there are streaks visible, either on the anterior or posterior surface, before the nucleus manifests any tendency towards dulness, but instead of converging from the border of the lens, they rather diverge from the central point. These streaks are also irregular in number and direction; and it has never occurred to me to distinguish in them any exact representation of the edges of the mesial planes as they are seen on the surface of the prepared lens: never, certainly, any trilinear figure. But a glance at the representation above given of the complex arrangement of the mesial planes in the adult human lens, will suffice to explain why they are rarely seen in such opacities. In the natural lens they are in reality too near together, and too irregular, to be detected without a glass. The triple divergence from the axis can, even then, only be recognised for a short distance, beyond which the planes seem to diverge and branch without any attempt at geometrical precision. We cannot, therefore, wonder that an opacity, spreading from the centre of the surface of the lens, and which consists of broad, ill-shapen streaks, should fail to disclose the delicate and complex radiation of the mesial planes: although it seems highly probable that its seat is, primarily and essentially, rather in the edges of those planes, than in the fibres themselves.*

In the lenticular cataract of adults, the glistening, silky, fibrillation of the lens may be often seen; but you will fail, even in the best-marked of these cases, to discover, with the naked eye, any thing like regularity in the mode in which the fibres pass off from the central region. Before becoming acquainted with the complex arrangement of the planes in the human lens, I could not satisfy myself why the triple line of the mammalian lens should be unseen; but the actual complexity is a sufficient reason. It explains, too, the appearances of many cases of opacity of the body of the lens, where the fibrous texture is in general obvious enough, but where, towards the centre, an amorphous, indefinable, obscurity exists.

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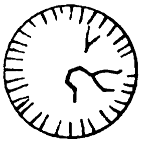
* Since this lecture was delivered, I have seen two cases (one under the care of Mr. Dixon) in which the opacity radiated from the centre in clearly-defined branching lines, corresponding exactly in character with the branchings of the central planes. The opacity was confined to the surface of the lens, and did not dip in the direction of the planes; neither did it occupy all the divisions of the central planes. It was accompanied, in both cases, with other streaks of opacity at the border of the lens, evidently in some of the fibres.

FIG. 12.



Cataractous lens, in which the opacity follows some of the divisions of the central planes of the lens, and some of the fibres at the circumference. The pupils dilated by atropine.

Original Communications.

REPORT OF
A CASE OF GENERAL PARALYSIS OF THE INSANE TERMINATING IN RECOVERY.

By Anthony Todd Thomson, M.D. F.L.S.
Fellow of the Royal College of Physicians, &c. &c.

The following case of general paralysis of the insane, is brought before the profession, not with any claim of merit for its treatment, but, as far as a solitary case can be of value, to set aside the too prevalent opinion, that this form of paralysis is necessarily fatal.*

Case.—Joseph Bond, æt. 36, was admitted into University Hospital, 31st May, 1848, under Dr. A. T. Thomson. He is of a sanguineo-nervous temperament; a carpenter by trade, married, and has always been a regular, temperate person. About a year ago he was thrown out of work from the failure of his master; and not being able to get fresh employment he became extremely anxious and depressed in spirit; and, from his poverty, incapable of procuring proper nourishment either for himself or his family. Five weeks previous to his admission into the hospital, he was attacked with a convulsion, followed by trembling in all his limbs, inability to stand, and loss of speech. He was also mentally deranged; a state which lasted for three days, during which time he attempted suicide.

A medical gentleman who was called to see him, blistered him twice on the nape of the neck, and gave him some medicines. He recovered his senses; but he was unconscious of every thing that had occurred during the time he lost his senses. He continued for some time after he entered the hospital in a state of great debility, with tremors in both upper and lower extremities, and extreme difficulty of articulation. He could not walk without assistance; and when he tried to walk alone he displayed a strong inclination to move either backwards or sideways. His articulation was thick and indistinct; and he moved his lips, as in the act of tasting, before he could speak. He, also, had much difficulty in selecting the words he meant to employ, and often used one word for another. He complained of pain in the forehead, especially over the left eye, the pupil of which was somewhat more contracted than that of the right eye. He had much pain on pressure being applied over the loins; and, indeed, this pain, although less, was felt along the whole course of the spine. During his illness, large red blotches appeared on different parts, and disappeared after two or three days. His bowels were regular; the tongue was clean, but dry, fissured, and tremulous when protruded; the pulse was small, weak, and 70. He still saw visions; but he had no ambitious monomania. (℞ Sp. Amm. Arom. f℥ij.; Fer. Ammonio-citratis ℈j., Infusi Quassiæ f℥vj. sum. 4ta. pars ter quotidie. Middle diet.) 3d June. His power of walking is improved; for, although he inclines to one side, yet he now feels no inclination to move backwards. He articulates better; and much of the tremor of the extremities has subsided. The pain of the loins is less on pressure; the bowels are open; the tongue is less tremulous; the urine is acid, and of sp. gr. 1030: clear, high-coloured, and scanty; it contains no albumen. He has still pain of the head.—(Mittantur sang. ope C. C. nuchâ. ℥xij. Pergat in usu misturæ.)—7th. He is not so well. The tongue is dry, and slightly furred. He complains of nausea, and pain at the epigastrium. The articulation is worse. The bowels are confined. He was delirious in the night.—(Omittatur mistura. ℞ Calomel. gr. iv.; Muc. q. s. ft. pilula h. s. sumenda; haust. purg. primo cras mane.)—8th. Feels more comfortable. The bowels were freely opened. The urine is natural. Pulse soft, 72.—(℞ Liq. Ammon. Acet. f℥iv., Pot. Nitrat. gr. xv.; Mist. Camph. f℥j. M.; haust. 4ta. q. q. horâ.)—13th. Much better. He perspires freely; the bowels are open; the urine is acid, and contains crystals of oxalate of lime. The tremor of the limbs is nearly gone; but the articulation is not much improved.—(Perstat in usu medicam.)—17th. The tremor of the limbs has again increased; and he walks unsteadily. The tongue is also tremulous when protruded; but it is clean.—(Omit. Mistur. Applicetur Emplast. Canth. longum spino dorsi. ℞ Mag. Suph. ʒiij.; Tinct. Jalapæ fʒj., Mist. Camph. f℥j.; haust. mane quotidie. ℞ Hydrargyri c. Creta, gr. iv.; Muc. q. s ft. pil. h. s., quotidie sumenda. Middle diet, with beef-tea and milk.)—20th. The tremors of the arms are not much relieved; and the articulation continues the same. The bowels are freely opened; the tongue is clean but dry; the urine sp. gr. 1018. He complains of want of sleep, and of delusions in the night.—(Perstat in usu Pilulæ et haustus. ℞ Morphiæ Acet. gr. ss., Micæ panis gr. j., ft. pil. h. s. sumend.)—21st. He slept better, but feels weak and vertiginous. He is purged; the tongue is furred. The pulse is small, sharp, and 96. He has lost his appetite; and says that although he sleeps better, yet he still sees devils around his bed. His gums have suddenly become spongy and tender. The urine is acid, sp. gr. 1018.—(Omitt. med. ℞ Morphiæ Hydrochlor. gr. ss.; Micæ panis gr.j, ft. pil. h. s. quotidie sumenda. ℞ Sodæ Bicarb. ʒj.; Tinct. Camph. C. fʒiij.; Mist. Camph. f℥vss. M. Sum. 4ta. pars., 4ta. q. q. horâ. To have meat daily.)—26th. He complains of stiffness of the neck and sore throat; and the tongue is white and dry. He continues weak, and feels vertiginous on attempting to walk.—(Perstat in usu Mist. ℞ Liq. Ammon. fort. fʒiij.; Olei Ricini fʒvj.; Ol. Olivæ fʒiv.; ft. lin. cervici applicandum.)—27th. He is vomited and purged, and feels griping pains in the abdomen. The pulse is small, feeble, 104; the tongue dry; the urine clear, and slightly alkaline, sp. gr. 1022: it deposits earthy phosphates. The uneasiness of the mouth and soreness of the throat continue. On examining the liver, its vertical dulness extends from two inches below the right nipple to one inch below the false ribs: and horizontally to one inch left of the median line. Breath sounds are rougher than usual. The heart's dulness is five inches by four, extending from the left nipple to one inch to the right of the median line; second sound sharper than natural, and prolonged at the base and mid-heart; first sound shorter at the apex than natural. There is great tenderness over both renal regions; the pulse is sharp, 108; the tongue white and glazed; and the bowels regular. The tonsils are swollen and red; the interior of the cheeks is aphthous; and an herpetic eruption has broken out around the mouth.—(℞ Morph. Ac. gr.¼; Ext. Humuli gr.iij. ft. Pilula h. s. Sumenda. ℞ Potassæ Bicarbon. ℈j., Infusi Quassiæ f℥jss. M. haust.; c. Tinct. Ferri Sesquichlor. ♏xv., ter quotidie, sumendus.)—29th. No improvement; he continues to lose strength; his nights are restless; the bowels are now confined; and the expression of his countenance is most anxious.—(Admoveantur hirud. viij. cervici. Omitt. med. ℞ Potass. Nit. ʒij., Infusi Rosæ acid. f℥vj.; Gargar. sæpe utendum. ℞ Ammon. Sesquic. gr.vj.; Acaciæ Pulv. ʒss., Mist. Camph. f℥jss.; haust. 4ta q. q. horâ sumend. ℞ Sol. Morphiæ Bimeconatis ♏xviij.; Aquæ f℥j. haust. h. s. sum.)—30th. The narcotic procured no sleep. The throat and mouth are worse; he is unable to masticate solids, and swallows liquids with difficulty. His articulation is very indistinct. The mouth has much of the appearance which cancrum oris presents. The pulse is small, 120; the tremor of the limbs great; the anxiety of the countenance increased. The urine is scanty and high coloured, sp. gr. 1015.—(Perstat in usu Mist. et haust. Anod.; addendo misturæ Ammoniæ Sesquicar. gr.ij. sing. dosibus. Let the ulcers of the tongue be touched with a solution of ʒj. of nitrate of silver in f℥j. of water, acidulated with nitric acid.)—4th. The ulcers of the tongue and mouth display a tendency to heal; the tonsils are less inflamed; and the power of deglutition is improved. He still complains of headache.—(Perstat in usu medic.—6th. The mouth and throat are much better; he now sleeps well, and is in better spirits. The bowels are regular; the pulse is soft, and 96. The urine is rather turbid. He still complains of headache.—(App. Emplast. Canth. longum inter scapulas.)—8th. Although the tongue is better, yet the throat is worse, and he swallows with great difficulty. The submaxillary glands are enlarged and tender. He is still extremely weak and emaciated.—(Omitt. Mistura; Perstat in usu Haust. Anod. ℞ Ammoniæ Sesquicarbon. gr. v.; Acaciæ Pulv. ℈j.; Decocti Cinch. f℥jss.; T. Camph. Comp. fʒj. Haust. ter die sumendus.) 10th.—The mouth and throat are greatly better; all the ulcers are cicatrized, and the submaxillary gland is no longer tender. He still feels weak; the pulse is small, and 92, but he sleeps well.—(Perstat in usu Med.) 15th.—He is improving rapidly. The throat and mouth are well; the tremor of the extremities and the indistinctness of articulation are gone. The pulse, however, is feeble, and 72; and he still feels weak. —(Perstat in usu Misturæ.) 18th.—He is gaining strength, and eats his meals with an appetite. The tongue is red, and somewhat glazed. — (℞ Sodæ Biboratis, ℈j.; Tinct. Aconiti, ♏v.; Infusi Calumbæ, f℥jss. Haust. ter quotidie sumend. Omitt. Mistura c. Ammoniæ Sesquicarbonate.

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* Neither Royer-Collard nor Esquirol has ever seen a case of it cured.

22d.—He continued to gain strength, and was this day discharged cured.

Remarks.—In reviewing this case, its connection with general paralysis affecting the insane is so obvious that it may be regarded as one of the few recorded cases of recovery from that disease. If we look at the circumstances of the individual prior to the attack, we find them to be such as, in the opinion of a high authority,[*] render men liable to diseases of the brain—namely, a life of inactivity and depression succeeding a life of incessant toil. The poor man had worked hard at his laborious occupation, when he was suddenly thrown out of work; consequently he became inactive, and the morbid influence of this state was farther increased by his disappointment in not finding fresh employment, and by the anxiety connected with his consequent poverty. He was also of a temperament (the sanguineo-nervous) and an age[†] the most liable to such an attack; and this temperament, with deficient diet, are the only predisposing causes to which the history of the case enables us to refer the disease. It is unnecessary to look beyond his anxieties and disappointments for the exciting causes.

The primary symptoms differed in some respects from those most common to general paralysis of the insane. That disease seldom commences with convulsions, although we can have no difficulty in believing that tremors, depending on such a condition of the brain as must have existed in our patient, might give rise to convulsions. Tremulous protrusion of the tongue, indistinct articulation, and tremor first of the upper, and next of the lower limbs, are the commencing symptoms of the disease; but in this instance both the upper and the lower extremities were simultaneously affected. The features had, however, the same ghastly and fatuitous expression which usually characterises this form of paralysis. At no time was the tremor of the arms so great as to prevent a glass being carried to the mouth. When he lost the tremor of the lower limbs and he walked firmly, on the 10th day after the treatment commenced, the tremor of the hands and the impeded articulation remained unabated; but this early improvement of the lower limbs is not uncommon even in hemiplegia. The intermittent character of the disease also displayed itself in this instance. After a decided improvement on the 13th, all the bad symptoms returned on the 17th, and intermitted once afterwards. Throughout the progress of the symptoms there was no loss of sensation; the sphincters were not affected; and although there were hallucinations and delirium at night, yet, after the patient entered the hospital, he displayed no trace of mental aberration during the day. The diarrhœa which supervened on the 21st is not uncommon in the third stage of the disease: it continued until the 27th, when it was accompanied with vomiting, and that train of symptoms which indicate the most alarming state of depression; but instead of gangrene of the lungs, and complete paralysis of the muscles of deglutition, which usually precedes the fatal termination of general paralysis of the insane, the *cancrum oris, the sore throat,* swelling of the *submaxillary glands,* with *painful deglutition,* depending on the ulcerated state of the fauces, supervened. The patient rapidly lost flesh; and the prognosis at this time was any thing but favourable. This is generally the case; indeed, some of the best writers[*] on insanity consider the disease incurable: it is rare that a recovery so perfect as in the present instance occurs; for, in every recorded case, some traces of paralysis still remained. In our patient the recovery seems perfect; but there is no certainty for the future: for in a case recorded by M. Rodrigues, the patient remained well for nine months, and then terminated his life by suicide.*

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[*] Esquirol.

[†] M. Bayle regards the period from thirty to sixty that in which the disease most frequently appears.

[*] Royer-Collard, Esquirol, Pinel.

Any opinion that might be advanced with respect to the pathological condition of the brain, must be purely hypothetical. It may be presumed the cerebellum was implicated, from the inclination of the patient to walk backwards, and the staggering and lateral inclination of the body when he attempted to walk. In the experiments of Flourens, when the cerebellum was removed the animal lost the faculty of grouping the actions of muscles of volition, and its gait was like that of a drunken man. The spinal chord, also, most probably was in a state of hyperæmia in its motor tract; but whilst we admit that these inferences are merely conjectural, there can be little doubt that some portion of the brain connected with the voluntary movements was morbidly affected. Whether this was the cause or the effect of the convulsions which ushered in the insanity, is not easily determined.

In the treatment of this case, the depressed condition of the patient induced me to order a moderately stimulant tonic, with the view of restoring strength, and consequently diminishing excitability. The cupping prescribed with the intention of relieving the headache, was at least not productive of any beneficial effects; and indeed, although blood-letting is strongly recommended by Rodrigues, yet, in my opinion, it is contraindicated by the debility and the state of the pulse: and as I conceived that headache might be augmented by the preparation of iron, the Ammonio-citrate was discontinued. Some improvement apparently followed the use of the simple saline alterative ordered after the Ammonia-citrate was discontinued and the bowels were freely opened: but, as the remedies were, at first, merely palliatives, and were varied with the change of symptoms, little general beneficial influence can be ascribed to any of them. The narcotics, certainly, were beneficial in allaying irritation and procuring sleep,—effects of the utmost importance in such a case. When the symptoms closely resembling Cancrum oris displayed themselves, and the salivary discharge became redundant when no mercurial was taken, acccompanied with great irritative fever, the indications to be fulfilled became more obvious. Generous diet, except in the form of strong beef-tea and wine, could not be taken, consequently it was not ordered; and I relied chiefly on the powerful influence of the Sesquicarbonate of Ammonia, combined with the compound Tincture of Camphor and Decoction of Cinchona: a combination which I have never seen to fail in relieving and promoting the cure of Cancrum oris. Touching the ulcers of the mouth with a solution of Nitrate of Silver, slightly acidulated with Nitric Acid, sooner cleans them, and favours cicatrization than any means which I have tried; and the same solution applied over the surface threatened with bed-sores instantly arrests their progress.

Although the patient was discharged apparently perfectly well; and procured work almost immediately after leaving the hospital, yet he is still regulating his diet, and taking a gentle tonic. By these means, and as the brain is not likely to be too severely exercised by one in his rank of life, there is every reason for believing he may remain well. How far the treatment pursued in this case may suggest a more successful mode of managing other cases, can only be determined by experience.

30, Welbeck Street,
12th August, 1848.

APOTHECARIES' HALL.

Names of gentlemen who passed their examination in the science and practice of medicine, and received certificates to practise, on Thursday, August 17, 1848:—Draper Mackinder, Barton-under-Nedwood, Staffordshire—George Robert Cubitt, Norwich, Norfolk—Frederic Charles Cory, London—John Seager Gundry, London — George Grayling, Sydenham.

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* Traité de la Paralysis, General, Chronique, &c. Par Hubert Rodrigues, Prof. Agregé à la Faculté de Montpelier, &c. 1847.

ON

NARCOTISM BY THE INHALATION OF VAPOURS.

BY JOHN SNOW, M.D.
Vice-President of the Westminster Medical Society.

[Continued from vol. xli. p. 1078.]

On bromoform, bromide of ethyle, and Dutch liquid—General results of the experiments—The strength of narcotic vapours in the inverse ratio of their solubility in the blood.
Description of the physiological effects of chloroform.

Bromoform.

THIS is a volatile liquid of the same composition as chloroform, except that three atoms of bromine occupy the place of the same proportion of chlorine. It is made in the same way as chloroform, bromide of lime being used instead of chloride. I have repeatedly made it, but have never succeeded in obtaining more than a few grains in a purified state, although I used an ounce of bromine in making the bromide of lime on each occasion; consequently it is very expensive. It is extremely fragrant, having an odour that is, in my opinion, much pleasanter than that of chloroform or any other of this class of substances with which I am acquainted. It boils at about 184° Fah.; but, as its vapour is twice as heavy as that of chloroform, it is in point of fact nearly as volatile as that liquid. It is very pleasant to inhale, but I have never breathed more than a few grains at a time, and, therefore, cannot speak of its operation on the human subject. Its effects on animals closely resemble those of chloroform.

The two following experiments will serve to illustrate the action of bromoform, and to determine the quantity in the blood:—

EXP. 35.—A common mouse was placed in a jar containing 400 cubic inches, in which three grains of bromoform had been diffused. In the course of four or five miuntes it became unsteady in its walking, and ceased to regard objects in its way. It did not get further affected, except to become rather sluggish, and, when removed at the end of twenty minutes, was capable of voluntary motion. It did not regard a slight pinch, but flinched when the soft part of its foot was pinched severely. It recovered gradually, and was pretty well re-established in half an hour.

EXP. 36.—Another mouse was placed in the same jar with six grains of bromoform: it was more quickly affected, and, at the end of five minutes, all voluntary motion had ceased, and it lay breathing naturally and rather deeply. It was removed at the end of a quarter of an hour, and did not stir on being pinched. It began to recover voluntary motion in ten minutes, but staggered at first. In a little more than half an hour it had recovered.

In the first of these experiments the second degree of narcotism was caused by three-quarters of a grain of bromoform to each 100 cubic inches of air. The specific gravity of the vapour of bromoform is stated, in Thompson's Chemistry of Organic Bodies, to be 8·785, which gives 0·275 of a cubic inch as the quantity of vapour that three-quarters of a grain would yield; and I find that fifteen cubic inches of this vapour are contained in 100 of air saturated with it at the temperature of 100°; consequently the air of the jar contained $0·275 \div 15 = 0·0183$, or nearly one fifty-fourth part of what it would take up if saturated at 100°, and, according to the principles explained in a former part of these papers,* the blood of the mouse would contain just the same proportion—one fifty-fourth of what it could dissolve. In the other experiment, the fourth degree of narcotism was produced by twice the quantity—a grain and a half to each 100 cubic inches, which, by the same computation, gives about one twenty-seventh part of what the blood would take up. These proportions are nearly the same as in the case of most of the substances previously examined. I have not ascertained the exact solubility of bromoform, and consequently cannot compute the absolute quantity in the blood, but it resembles chloroform in being very sparingly soluble.

I have not heard that any one else has examined the effects of the vapour of bromoform; but Dr. Glover mentions an experiment in his valuable paper On Bromine and its Compounds,* in which bromoform in the liquid state was introduced into the stomach of a rabbit, with the same results as in other experiments with similar bodies: these were death, with congestion of the lungs and stomach.

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* Vol. xli. p. 850.

Bromide of Ethyle.

Bromide of ethyle, or hydrobromic ether is a very volatile liquid, boiling, as I have found, at 104°. It has a pleasant but somewhat pungent taste and smell. It was discovered by Serulas in 1827, and is formed by the action of phosphorus on a solution of bromine in alcohol. I am not aware that its physiological effects have been examined except in a few experiments which I have performed with its vapour. I will cite two of them to illustrate its effects. The bromide of ethyle was made by myself.

Exp. 37.—Eight grains of bromide of ethyle were introduced into a jar containing 400 cubic inches, and the vapour which instantly resulted was equally diffused by moving the jar. A mouse was then put in. In about four minutes it began to stagger and fall over, and was quite regardless of external objects. It did not get affected beyond this extent, except that it became rather feeble. It was taken out at the end of a quarter of an hour, having the power of voluntary motion, but rolling over in its attempts to walk. It flinched with severe, but not with slight pinching. In ten minutes it had pretty well recovered.

Exp. 38.—Another mouse was placed in the same jar with sixteen grains of bromide of ethyle. In two minutes it had ceased to move, not having shewn any signs of excitement. It lay motionless, breathing at first deeply, afterwards more naturally. It was removed at the end of a quarter of an hour, and was found to be totally insensible. In five minutes it began to move, but rolled over in its first attempts to walk. Twenty minutes after its removal, it appeared to have recovered from the effects of the vapour.

Connected with the great volatility of this liquid is the increased quantity of it required to be present in the air to produce a given effect,—in accordance with the law which requires that the blood must be impregnated to a certain extent relatively to what it could imbibe. In one experiment I performed with this substance, one grain to each 100 cubic inches of air produced no appreciable effect whatever on a mouse confined for twenty minutes in it, although with that quantity of several less volatile bodies complete insensibility would have been induced.

In experiment 37 two grains to each 100 cubic inches of air produced the second degree of narcotism; and in the following experiment four grains produced the fourth degree. The specific gravity of the vapour of bromide of ethyle is, I find, 3·78, the atom being represented by two volumes. Two grains will consequently occupy 1·706 cubic inches in the form of vapour. At the temperature of 100° the vapour of bromide of ethyle almost excludes the air, and occupies 92·8 per cent. of its place. So 1·706 ÷ 92·8 gives 0·0183, or nearly one fifty-fourth, as the relative saturation of the blood with this vapour for the second degree of narcotism; and there would be twice as much, or one twenty-seventh, for the fourth degree.

I have not ascertained by direct experiment how much bromide of ethyle serum will dissolve, but I find that water dissolves about one-sixtieth of its volume of it; and as the solubility of liquids of this kind is nearly the same in water as in serum, this may safely be taken as the standard;—when, if we consider the average quantity of serum in the human body to be 410 fluid ounces, as in a former part of these papers, and make the kind of calculation there made, we shall find that one fluid drachm and ten minims is the average quantity that there would be in the blood of a human subject in the second degree of narcotism; and two drachms and twenty minims in the fourth degree.

Dutch Liquid.

In recent works on chemistry this substance is called the hydrochlorate of chloride of acetyle. It is formed by the combination of equal volumes of olefiant gas and chlorine. It has a taste at once sweet and hot, and a pungent ethereal odour. It boils at 180°, and not at 148°, as Dr. Simpson states in some brief remarks on it in the Edinburgh Monthly Journal for April last, where he informs us that its vapour, when inhaled, causes so great irritation of the throat that few persons can persevere in inhaling it long enough to produce anæsthesia; but that he had, however, "seen it inhaled perseveringly until this state, with all its usual phenomena, followed; and without excitement of the pulse or subsequent headache." My experiments with it have been confined to animals; and the two following will serve as a sample of them:—

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* Edin. Med. and Surg. Jour., Oct. 1842.

Exp. 39.—One grain and a half of Dutch liquid was diffused through the air of a jar containing 400 cubic inches, and a mouse was introduced. After ten minutes had elapsed it began to stagger in its walk, and it continued to do so till it was removed at the end of half an hour. It was occasionally lying still, but always began to walk in an unsteady manner when the jar was moved. It was sensible to pinching on its removal, and in a quarter of an hour had recovered from its inebriation. It continued well.

Exp. 40.—A mouse was put into the same jar after three grains of Dutch liquid had been diffused in it. It began to stagger sooner than that employed in the last experiment; and at the end of ten minutes had ceased to move, without having had any struggling or rigidity; and it was not disturbed on the jar being moved. It lay breathing naturally till it was taken out at the end of half an hour, when it was found to be totally insensible to pinching. In ten minutes after its removal it began to move, but rolled over in its efforts to walk; when half an hour had elapsed it appeared to have recovered entirely from the narcotism, but was less lively than before; and two or three hours afterwards it was observed to be suffering with difficulty of breathing, and it died in the course of the day. The lungs were congested and of a deep vermilion colour, probably the result of inflammation, occasioned by the irritating nature of the vapour. The right cavities of the heart were distended with dark-coloured coagulated blood. The same appearances were met with in another mouse that died in the same way after breathing this vapour.

In the first of these two experiments the second degree of narcotism was effected by three-eighths of a grain of vapour to each 100 cubic inches of air; and as the specific gravity of this vapour is 3·4484, three-eighths of a grain must occupy 0·35 of a cubic inch. I find that air, when saturated with vapour of Dutch liquid at 100°, contains 17·5 per cent., and therefore 0·35÷17·5 gives 0·02, or one-fiftieth, as the relative saturation of the blood in this degree. In the other experiment the fourth degree of narcotism was caused by twice as much vapour, or three-quarters of a grain to each 100 cubic inches, and, consequently, the blood would contain twice as much, or one twenty-fifth part of what it would hold in solution if saturated. I have ascertained that Dutch liquid requires about 100 parts of water for its solution, and taking its solubility in the serum to be the same, the blood would contain one part in 5000 in the second, and one part in 2500 in the fourth degree of narcotism, which in the human subject would be, on an average, 46 minims and 92 minims respectively.

General results of the experiments.

We have now seen the result of this experimental inquiry into the action of eight volatile substances, viz.: chloroform, ether, nitrate of oxide of ethyle, bisulphuret of carbon, benzin, bromoform, bromide of ethyle, and Dutch liquid. We find that the quantity of each substance in the blood, in corresponding degrees of narcotism, bears a certain proportion to what the blood would dissolve—a proportion that is almost exactly the same for all of them, with a slight exception in the case of benzin, which I believe is more apparent than real. The actual quantity of the different substances in the blood, however, differs widely; being influenced by their solubility. When the amount of saturation of the blood is the same, then it follows that the quantity of vapour required to produce the effect must increase with the solubility, and the effect produced by a given quantity must be in the inverse ratio of the solubility, as I announced some time ago.* This rule holds good with respect to all the substances of this kind that I have examined; including, in addition to those enumerated in this paper, bichloride of carbon, iodide of ethyle, acetate of oxide of ethyle, nitrate of oxide of methyle, acetate of oxide of methyle, pyroxilic spirit, acetone, and alcohol. The exact proportion in the blood, in the case of the three last mentioned, cannot be ascertained directly by experiments of the kind detailed above; for, being soluble to an unlimited extent, they continue to be absorbed as long as the experiment lasts: but from the large quantity of these substances that is required to produce insensibility, they confirm the rule stated above in a remarkable manner.

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* Medical Gazette, March 31.

This general law, of course, does not apply to all narcotics; not, for instance, to hydrocyanic acid, but only to those producing effects analogous to what are produced by ether, and having, I presume, a similar mode of action. I am not able at present to define them better than by calling them, that group of narcotics whose strength is inversely as their solubility in water (and consequently in the blood). In estimating their strength, when inhaled in the ordinary way, another element has to be taken into the account, viz., their volatility; for that influences the quantity that would be inhaled. By multiplying together the number of parts of water that each substance requires for its solution, and the number of minims of each substance that air will hold in solution at 60°, we get a set of figures expressive of the relative strength of each, when breathed in the ordinary way; and by another method of calculation the time might be expressed, in minutes and seconds, that it would take, on an average, to render persons, breathing in the usual way, insensible by each substance: but I shall here confine myself to enumerating the bodies I have examined in two columns; arranging them, in the first column, in the inverse order of their solubility, which is the direct order of their actual potency; and in the second column, in the order in which they stand after their volatility is taken into the account, which is the order of their potency when mixed with air till it is saturated at any constant temperature.

Bisulphuret of Carbon	**Bisulphuret of Carbon**
Bichloride of Carbon	**Chloroform**
Chloroform	**Bichloride of Carbon**
Bromoform	**Bromoform**
Benzin	**Bromide of Ethyle**
Dutch Liquid	**Benzin**
Iodide of Ethyle	**Iodide of Ethyle**
Bromide of Ethyle	**Dutch Liquid**
Nitrate of Oxide of Ethyle	**Oxide of Ethyle (Ether)**
Nitrate of Oxide of Methyle	**Nitrate of Oxide of Ethyle**
Oxide of Ethyle (Ether)	**Nitrate of Oxide of Methyle**
Acetate of Oxide of Ethyle	**Acetate of Oxide of Ethyle**
Acetate of Oxide of Methyle	**Acetate of Oxide of Methyle**
Acetone	**Acetone**
Pyroxilic Spirit	**Pyroxilic Spirit**
Alcohol	**Alcohol**

The general law, stated above, respecting the solubility of these liquids in the blood, applies also, with certain modifications, to a number of bodies which are gaseous at ordinary temperatures, and there are several important conclusions to be deduced from it. But before proceeding further in the attempt to give a general history of narcotic vapours and gases, and to determine what substances should be included in the list or otherwise, it will be well for me to describe, more particularly than I have done, the nature of the narcotism produced by the class of bodies we are considering, of which chloroform may very properly be taken as the type. I shall, therefore, next proceed to give the best description that I can of the effects of chloroform, having especially in view the practical importance of the agent; and shall make all the remarks that I am able to include in a brief space, on the administration of chloroform in surgical operations, medicine, and midwifery.

Description of the effects of Chloroform.

I may premise, that in applying the term narcotic to chloroform and other volatile substances, I employ it in the extended sense in which it is used by writers on materia medica and toxicology, who make it include all the substances which act on the nervous system; and I apply the term narcotism to designate all the effects of a narcotic, as I am entitled to do by strict etymology, and do not confine it, as the practice has generally been, to express a state of complete insensibility. I do not object to the term anæsthetic, but I use that of narcotic as being more comprehensive, and including the other properties of these vapours as well as that of annulling common sensibility.

To facilitate the description, I divide all the effects of chloroform short of the abolition of life, into five degrees. I use the term degree in preference to stage, as, in administering chloroform, the slighter degrees of narcotism occur in the latter stages of the process, during the recovery of the patient, as well as in the beginning.

The division into degrees is made according to symptoms, which, I believe, depend entirely on the state of the nervous centres, and not according to the amount of anæsthesia, which I shall give good reason for believing depends very much on local narcotism of the nerves.

In the first degree I include any effects of chloroform that exist while the patient possesses perfect consciousness of where he is, and what is occurring around him. As the sensations caused by inhaling a small quantity of chloroform have been experienced by nearly every medical man in his own person, I need not attempt to describe them. They differ somewhat with the individual, but may be designated as a kind of inebriation, which is usually agreeable when induced for curiosity, but is often otherwise, when the patient is about to undergo an operation: in such cases, however, this stage is very transitory. Although it is the property of narcotic vapours to suspend the functions of different parts of the nervous system in succession, yet they probably influence every part of that system from the first, but in different degrees.

I have found that my vision became impaired when inhaling chloroform, whilst I should have thought it as good as ever, had it not been that the seconds pointer disappeared from the watch on the table before me; and I could only discover it again by stooping to within a few inches within it. Common sensibility becomes also impaired, so that the pain of disease, which is generally due to a morbid increase of the common sensibility, is in many cases removed, or relieved, according to its intensity. And hence it is that patients are able to inhale chloroform and ether, without assistance, for the relief of neuralgia, dysmenorrhœa, and other painful affections; the latter, which acts less rapidly, being the best adapted for this kind of domestic use—chloroform being perhaps not perfectly safe. The sufferings attendant on parturition, when not unusually severe, may generally be prevented, as stated by Dr. Murphy,* without removing the patient's consciousness; but I have met with no instance in which the more severe kind of pain caused by the knife was prevented, whilst complete consciousness existed, except in a few cases, for a short time, as the patients were recovering from the effects of the vapour, having just before been unconscious.

In the second degree of narcotism, there is no longer correct consciousness. The mental functions are impaired, but not altogether suspended. Generally, indeed, the patient neither speaks nor moves, but it is possible for him to do both; and this degree may be considered to be analogous to delirium, and to certain states of the patient in hysteria and concussion of the brain; and it corresponds with that condition of an inebriated person, who is not dead drunk, but in the state described by the law as drunk and incapable. It is so transitory, however, that the patient emerges to consciousness in a very few minutes at the farthest, if the chloroform is discontinued. This degree, any more than the others, cannot properly be compared to natural sleep, for the patient cannot be roused at any moment to his usual state of mind. Persons sometimes remember what occurs whilst they are in this state, but generally they do not. Any dreams that the patient has, occur whilst he is in this degree, or just going into, or emerging from it, as I have satisfied myself by comparing the expressions of patients with what they have related afterwards. There is generally a considerable amount of anæsthesia connected with this degree of narcotism, and I believe that it is scarcely ever necessary to proceed beyond it in obstetric practice, not even in artificial delivery, unless for the purpose of arresting powerful uterine action, in order to facilitate turning the fœtus. For, on the one hand, obstetric operations are less painful than those in which the knife is used, and, on the other, it is not so necessary that the patient should be perfectly motionless during their performance, as when the surgeon is cutting in the immediate vicinity of vital parts.* There is sometimes a considerable amount of mental excitement in this degree, rendering the patient rather unruly; but a further dose of the vapour removes this by inducing the next degree of narcotism, and there is less difficulty from this source with chloroform than with ether, since its action is more rapid, and two or three inspirations often suffice to overcome the excitement. Very often, however, the patient is quiet, and to a certain extent tractable in this degree, and if sufficient anæsthesia can be obtained, there are certain advantages in avoiding to carry the narcotism beyond it for minor operations, especially tooth-drawing, as I shall explain when I enter on the uses and mode of applying chloroform, at the end of this sketch of its physiological effects. The patient is generally in this degree during the greater part of the time occupied in protracted operations; for, although, in most cases, it is necessary, as I have formerly stated, to induce a further amount of narcotism before the operation is commenced, it is not usually necessary to maintain it at a point beyond this.

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* Pamphlet on chloroform in the practice of midwifery.

[To be continued.]

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* Mr. Gream and Dr. Wm. Merriman, who have done me the honour of quoting from my essays on ether and chloroform, in their pamphlets, have applied to midwifery, what I meant to apply only to delicate and serious surgical operations, and have grounded objections on the supposed necessity of producing a deep state of narcotism.

MEDICAL GAZETTE.

FRIDAY, AUGUST 25, 1848.

We are at a loss to understand the rules of law, which apply to charges of malapraxis in Midwifery. A man is not to be made criminally responsible for a mere error in judgment, or for an untoward accident, which one possessed of ordinary skill and competency, could neither foresee nor avert,—nor, should any legal responsibility fall on him, because fatal consequences ensue by reason of his not having adopted common principles of practice, when he acted with a *bonâ fide* conviction, that he was pursuing a course which seemed to him best adapted for the safe delivery of a female. For instance, the treatment of *placenta prævia* is yet a *quæstio vexata* with even experienced obstetricians; and it would be a hard case, if those who lost patients by conscientiously following the new plan of treatment, were to be tried for manslaughter. Such a system would put an end to all attempted improvements in practice, and the lives of females would be sacrificed to the heavy responsibility which a practitioner might feel he was incurring, by adopting in an emergency some new method of treatment, for which the common rules of practice had not provided.

In all these cases, the conduct of medical practitioners should be judged most leniently; we will go one step further, and say that this leniency should be especially an exclusive privilege of those who, by the possession of a diploma or certificate, can show that they have not commenced the practice of a difficult art, without endeavouring to make themselves acquainted with those principles adapted for their guidance which have been accumulated by experienced men. There is, however, another class of midwifery cases, which may be called the "disembowelling" or "eviscerating" cases, of which within the last three years we have had to record several remarkable instances, that appear to us to require a different mode of treatment. But, strange to say, the law, as applied to such cases, is often so strained in favour of an unlicensed practitioner, that the removal of the greater part of a woman's intestines through an aperture in the uterus, is considered to be only one of those casualties which may attend natural labour: in short, it has been held to furnish no proof of incompetency or unskilfulness!

In our last week's number,* our readers will find in an authentic form, the particulars of a "disembowelling" case, which has been recently made the subject of a trial for manslaughter. Of the practitioner who was concerned in the case, *Mr. W. H. Flint*, we know nothing. From the statement of our correspondent, *Mr. Crellin*, it would appear that he is not a medical man—at any rate, that he does not hold the license of the Hall, or the diploma of the College of Surgeons, and yet in the Medical Directory for 1848, his name occurs thus—†

> Flint. William Harding, Longnor, Staffordshire, M.R.C.S. 1844; L.S.A. 1844; Medical Officer of the Bakewell Union.

This discrepancy requires explanation, or it will tend materially to shake the confidence of the profession in the accuracy of the Medical Directory. On this we shall have a remark to make hereafter.

It would appear from a summary of the evidence, derived not from newspapers, but from an authentic source, that Mr. Flint was called to attend the deceased, Elizabeth Riley, while in labour. On examining the woman three times, he said it was a cross-birth, and he had turned it. About seven hours afterwards, having sent for his instruments, he employed them, as it appeared, for about an *hour and a half*, under the bed-clothes. He declined having further advice, although this was suggested to him by the friends. The deceased appeared to sink, and died, undelivered, about 12 o'clock, *i. e.* between two and three hours after the accused commenced his manipulations with the instruments under the bed-clothes. He told a witness that he had brought one child into the world, and there would be another in a few minutes. An attendant, perceiving that the woman was dying, turned the clothes off, and saw "a leg and foot, an arm and a hand, and something like intestines, hanging out nearly a foot." There was also an open penknife lying on the bed covered with blood, and for which the accused had previously inquired. The child which Mr. Flint said he had brought into the world, turned out to be a portion of the woman's bowels, with a part of the vagina and uterus attached to it; this was found under the chair in which the accused had been sitting! The inspection showed that there was no deformity of the pelvis; that a hand and foot of the child were protruding, the latter having on it a deeply-incised wound. With these there was projecting a loop of intestine, which had passed out through the lower part of the uterus. The perinæum was destroyed, and the orifices of the vagina and rectum were continuous. The uterus was ruptured at its anterior inferior portion: the head was lying on the left superior side of the abdominal cavity, having protruded through an extensive laceration or rupture of the uterus in that position. There were several wounds about the body of the fœtus and the posterior walls of the uterus; and the abdominal cavity throughout showed proofs of extraordinary instrumental and manual violence.

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* Page 295.

† Page 131.

We have been obliged to enter into these horrible details in order to make our comments intelligible. At the trial of the accused, the line of defence, by cross-examination, was,—that the deceased female had died from a rupture of the uterus, and that it could not be determined, whether the rupture had arisen from the *manual interference* of the prisoner, or from *natural causes*. It was suggested that the injuries to the viscera might have operated secondarily in accelerating death; but that the rupture of the uterus was the real cause. Upon this the judge stopped the case, and summarily directed an acquittal.

There can be no objection to the legal principle, that every accused person should have the full benefit of every reasonable doubt. On the other hand, the lives of the public require to be protected, especially when, as it is alleged in this instance, persons not legally qualified to practise, will take upon themselves the responsibility of attending a female in labour. Now, the question here was, as it appears to us,—Did this patient die from the gross ignorance, or criminal inattention, of the person who undertook to attend her in a medical capacity? Would she have died but for the want of knowledge on his part to adopt the proper measures for her delivery? An accident might occur to any one; but the plan pursued by the prisoner appears to us to have been in violation of all professional rules, and such that could not fail to lead to the death of any female so situated. That the uterus, near the seat of the rupture, had been improperly interfered with by the violent use of instruments, was rendered in the highest degree probable from the discovery, on its posterior wall, of several wounds, evidently instrumental; some being superficial, and others *having passed entirely through the organ*. As the primary cause of death was assigned to rupture of the organ, we consider this to have been a most important fact for the consideration of the jury; but no further evidence was allowed to be gone into, although, as we are informed, some accoucheurs of great experience were present to speak to the probable cause of the rupture and death. In the cross-examination of Mr. SIMKINS, the usual ingenious plan was adopted of extracting an answer to a general question, and then making it applicable to a particular case. Ruptures of the uterus may undoubtedly occur under the hands of the most skilful, and lead to death; but the question here was, whether on this particular occasion the rupture had not proceeded from gross ignorance and unskilfulness in the use of instruments. The wounds upon the uterus, evidently caused by instruments which had passed through it, furnished *primâ facie* evidence against the suggested occurrence of the two extensive ruptures from *natural* causes. We think additional evidence should have been received, and the jury have been allowed to form their judgment from the whole of the facts, whether a sufficient amount of gross ignorance on the part of the accused had not been proved to account for the death of the woman. As it was, the case was hastily stopped, the facts were not laid fully before them, and the only inference that we can draw is, that, because a fatal injury may occur spontaneously under the hands of a skilful man, or be occasioned by the unskilful use of instruments, its origin will be imputed to natural causes in spite of evidence from wounds through the walls of the uterus and involving the surrounding viscera of the abdomen. We do not think such verdicts likely to give satisfaction; and, as the law thus declares itself to be inoperative for the protection of females who have their bowels removed by such extraordinary instrumental manipulations with penknives, &c. during a delivery, it is the duty of the Colleges to take the matter in hand, and to insist that the practice of Midwifery shall be entrusted only to those who are really qualified to practise. We fear, however, there will be great difficulty in procuring the enactment of such a law, although its necessity, for the preservation of the lives of the poorer class of females, is rendered apparent by the not unfrequent occurrence of these disembowelling cases.

We shall conclude these remarks by asking how it is that Mr. Flint's name finds a place in the Medical Directory as a Member of the College of Surgeons, and Licentiate of the Apothecaries' Society, of so recent a date as 1844, when it turns out, according to an application made to those bodies, that he is not an admitted member of either institution. It shews that a return to a circular letter which involves no penal consequences for a false or knowingly erroneous statement, cannot be relied on as evidence of a person being a member of the profession. Until there is a legalised system of registration, we would advise the conductors of this publication to insert no qualifications to persons whose names are not found in the lists of the College and Hall of the dates returned. Their names should stand in a separate list, so that the statements of their qualifications may be announced to be on their own responsibility. This will undoubtedly give trouble in the first instance; but it will prevent the occurrence of such a serious mistake as is alleged to have been made on the present occasion—a mistake which is likely to create doubt and distrust with respect to all other names not known to the individual who consults the work. For the purposes of the trial, it was readily ascertained that the accused was not a member of either College or Hall; and we do not think there would be any greater difficulty in obtaining this information for the useful objects of the directory. The labour of compilation in each succeeding year would be small. Our own and other journals publish weekly the names of those gentlemen who have been duly licensed to practise; and this information is derived from officers connected with the College and Hall.

WE refer those of our readers who are interested in the subject of poor-law medical relief to the address of Messrs. BRADDON and WHITE, elsewhere inserted.* These gentlemen have acted in a proper and independent spirit: they have insisted upon a fair remuneration for their services, and in consequence they have not been re-elected by the liberal Upton Board of Guardians. We learn from the address, however, that three medical men have been found to act as a forlorn hope to the Board, and have just enabled them to gain a triumph over the four practitioners, who, so long as they held office, discharged their parochial medical duties with credit and ability. This may be to the temporary injury, but it will doubtless be to the ultimate gain, of Messrs. Braddon and White, and their colleagues. They have by their conduct in this affair won the good opinion of the respectable portion of the profession, while those who have thrust themselves into their places under such degrading circumstances cannot fail to lose it. We cannot express our surprise at the result of the election;—the tribe of Shakspeare's apothecaries is not yet extinct; and there is no office, whatever may be its name or emoluments, for which there will not be some *medical* candidates. Until we have in our profession a system of discipline like that which prevails in the law, and until medical ethics become not merely a name but a reality, such occurrences must take place, and give rise to bitterness of feeling and professional animosity. Among barristers any unbecoming or unprofessional mode of dealing is soon checked by an appeal to an Inn of Court. There is no such tribunal for the medical practitioner, and thus professional remuneration has become degenerated to the rivalry of trade.

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* Page 347.

In a code of medical ethics submitted in 1847 to the Philadelphia Medical Convention, we find the following article in reference to the duties of medical men in support of *professional character* :—

> "EVERY INDIVIDUAL ON ENTERING THE PROFESSION, AS HE BECOMES THEREBY ENTITLED TO ALL ITS PRIVILEGES AND IMMUNITIES, INCURS AN OBLIGATION TO EXERT HIS BEST ABILITIES TO MAINTAIN ITS DIGNITY AND HONOUR, TO EXALT ITS STANDING, AND EXTEND THE BOUNDS OF ITS USEFULNESS."

Do those medical practitioners who have taken offices resigned by other medical men from the notorious inadequacy of the salary, consider that they have acted in conformity with this plain and reasonable rule? But it is idle to ask the question: they have a deontology of their own which we trust few will be found to adopt.

IT is with regret that we have to announce the death of this illustrious chemist. Many months since, he had a severe attack of paralysis, and this appears to have been the cause of his death. He fully retained his intellect, although he had for a long time lost all bodily power. His death took place at Stockholm on the 7th inst. We hope, in a future number, to give a short memoir of his life.

MODERN CHEMISTRY IN THEORY AND PRACTICE. GALVANIC AGRICULTURE.

CHEMISTRY deals with the first properties of matter, and the laws of its combination, and just in proportion as it determines the one and expresses the other, does it throw light on those wonderful compounds built up of material cells which we call animals and plants. The *discoveries* of Berzelius and Mulder, and the *theories* (*hypotheses?*) of Liebig, have astonished the world; and we have been called to regard as the result of chemical laws, many of those processes to which the mysterious term life had been hitherto applied. As, however, in the history of all science, the theoretical part of these inquiries has mostly arrested the popular mind, the theories of Liebig have been much more highly appreciated than the discoveries of Mulder; and the natural result has followed, that he has produced a greater number of imitators. In almost every department of knowledge to which the laws of chemistry apply, we find crude and hasty generalizations usurping the place of earnest inquiry and intelligent observation. Homœopathy, hydropathy, and mesmerism, have all seized upon the facts and generalizations of the chemist as a support to their erroneous views. But of all the classes which have been thus led away, there has been none which has been so far misguided, as the sober one of farmer. It is to him that the vegetable quack appeals, offering in the application of chemical manures, electricity, magnetism, and other agents, harvests more golden than the world had ever seen before. It is only a short time since, that the announcement was made, that by surrounding a field with galvanic wires, its produce might be doubled or trebled! The plan was extensively put in action, and turned out, as might have been expected, a complete failure.—*Athenæum.*

Reviews.

Oratio Anniversaria Harveiana, a Francisco Hawkins, M.D., Coll. Reg. Med. Lond. Soc. et Registario, &c. 4to. p. 27. Londini: Prostat apud Johannem Churchill. MDCCCXLVIII.

We have had much pleasure in reading this excellent Latin oration from the pen of Dr. Francis Hawkins, and are not a little surprised to find the readiness and facility with which passing occurrences are noticed in a language which, except among the learned, has been extinct as a medium of intercourse for many ages. The Oration is truly Harveian. Dr. Hawkins dwells upon the life, conduct, and opinions of Dr. Harvey, who, in an age of comparative darkness and ignorance, stood forth as one of the bright lights of our profession. But while Harvey occupies the most prominent place, those illustrious men who succeeded him have a full meed of praise awarded to them.

Harvey, it is well known, was one of those who spurned authority where it was opposed as an obstacle to the proper investigation of nature. In his pursuit of science, he was guided by the light of an inductive philosophy of his own; and to this independent mode of research may be ascribed his grand discovery of the circulation of the blood.

> "Quod ad Physicam scientiam attinet, cum præceptis aureis, tum præclarissimo exemplo suo, nos, quicunque in rebus medicis versamur, hortatus est Harveius, ut vanis opinionum commentis ablegatis, nullius in verba magistri jurantes, Naturam interrogemus ipsam, et per experimenta interpretemur. Inierat igitur, et præceperat illam ipsam viam, quam, brevi postea, monstravit omnibus et munnivit Verulamus. Scilicet, 'a sensu et particularibus ascendendo continenter et gradatim, ut ultimo loco perveniatur ad maxime generalia:' vero experientiæ ordine, videlicet, qui 'primo lumen accendit, deinde per lumen iter demonstrat.' Exinde feliciter fieri cœptum est ut auctore et duce Harveio, tandem aliquando resipuerint Medici, prius Galeni tam fautores inepte, ut si quis illius auctoritatem ausus fuerit, vel in minimis, imminuere, hunc animadversione et pœnis, et, pro pudor! carcere, coercendum censuerunt." (p. 13.)

But although Harvey was an enemy to all authority where it interfered with the free scope of thought and research, he did not despise the labours of those who had gone before him. He was a great advocate of the study of the Classics.

> "At vero Harveius qui Naturam, oculis quam maxime intentis, contemplari solebat num veterum auctoritatem negligebat? Num literas parvi pendebat? Immo, vetustatis exempla monumentaque diligenter recolebat; historicos, politicos, poetas adamabat. Janus hanc ipsam orationem Latine haberi jussit. Et sine controversia, fuit omnis vel scientiæ, vel doctrinæ, summe studiosus." (p. 14.)

The orator then proceeds to enumerate the merits of other medical worthies who have conferred honour on the College of Physicians. Among them we find the names of Linacre, Canis, Gilbert, Caldwell, Glisson, Willis, Lower, Wharton, Sloane, Baillie, Young, Wollaston, and Halford. Of Dr. Lambe, who was the first to point out the danger arising from the formation of carbonate of lead in water kept in leaden cisterns, it is said—

> "Particulas plumbeas in aquis latitantes scite evocavit. Simplex erat et apertus et mores ejus modestissimi, vita integerrima." (p. 20.)

An apology is offered for his strange antipathy to animal food:

> "Quod si paulo inconsultius carnem nobis omnino interdicere vellet, ignoscendum est tamen. Cuinam enim nocuit? Nemo quod sciam, illi, de hac re, nisi ipse sibi, dicto fuit audiens." (p. 20.)

Had Dr. Lambe lived in these days, his chemical knowledge would probably have removed a prejudice which modern science has proved to be without any foundation. The nitrogenous principles of the animal and vegetable kingdoms are now proved to be so nearly allied that the difference is merely nominal.

On an occasion like this, we cannot be surprised that Dr. Hawkins should take an opportunity of referring to his evidence before the Parliamentary Committee on Medical Registration. It appears that the following question was put to him by Mr. Wakley—"Have you not often found that the men who were best acquainted with *literature* and *science* were the worst practitioners?" Dr. F. Hawkins—"I would not say the worst, because I have found *that the worst practitioners of all are those who, without general education, have a little practical experience, of which they are very proud, and fancy that their knowledge is much greater than it really is.*" This is the best answer with which we have met, to a question which embraces a popular but very unsound view of the influence of scientific researches upon medicine. We have heard the microscope ridiculed, because scientific medical men have employed it in order to enable them to form an opinion on the nature of urinary deposits. The researches of Liebig, Mulder, and others, in Organic Chemistry, have been despised for the same reason. Chemistry, in the hands of Prout and Bright, has, however, thrown great light upon practical medicine; and even the "small practical men" to whom Dr. Hawkins alludes in his reply, have not hesitated to talk of the influence of diet and medicines in calculous disorders, and of the importance of examining the urine for albumen in diseases of the kidney. Medical men who devote themselves to science and (medical) literature, often confine themselves to special branches, and are thus withdrawn from practice; but they are not the less useful in aiding the struggles of the "practical" men, by demonstrating the principles upon which diseases should be treated. Practice, without the aid of scientific theory, is mere groping in the dark. No man ever made a good or safe practitioner, who despised scientific research; and the medical works and periodicals of the present day demonstrate its importance to the progress of medicine.*

Well may Dr. Hawkins say in relation to the parliamentary question put to him:—

> "Tales cum fuerint viri, qui studiis liberalibus, redditi essent aptiores Medicinæ, per mihi mirum videtur, hisce temporibus, esse aliquos, qui *litterarum* et *scientiæ* studia Medicis indici, saltem ex auctoritate, nolint: immo, nonnullos, qui studia Medicis, obfutura, atque ad medendum impedimento fore contendant.
>
> "Quid? impedientne Medicos humanitatis studia? O! stultos Linacros et Caios! O! amentem Harveium! Quam nullius consilii fuerunt Sydenhamus, Boerhaavius, Hallerus, Meadus, Heberdeni, Halfordus! Qui, tanti cum fuerint, docti; credo, majores fuissent indocti. O! obtrectatores, invidum genus! Nempe, cum viderint sibi doctrinam esse nullam, quam vellent, veluti vulpes in fabula (namque, in re anili, anilem fabulam mihi proferre liceat) quam vellent, veluti vulpes mutila, docti omnes doctrinam suam abscidant atque deponant!
>
> "Vel si non sint maligni, si non sint "animi sub vulpe latentes," at certe nesciunt quantum doctrina vim promoveat insitam." (p. 22.)

The quackery of St. John Long, although it has now died off, is not allowed to pass without comment.

> "Interdum quoque fieri potest ut prosint linimenta acriora et exulcerantia; at iis nullo discrimine servato, abuti, ferreum est; sicut, hercle, nimis aspere tractavit multos, nuper, famosus quidam; de corio alieno qui lusit miserabiliter."* (p. 25.)

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* The Lectures of Baron Liebig upon the most recondite parts of chemical science in relation to Organic Chemistry, were published a few years since in the Lancet. We have only just completed in the pages of the MEDICAL GAZETTE, a valuable course of lectures recently delivered by Dr. Golding Bird, on the Influence of Researches in Organic Chemistry on Therapeutics, especially in relation to the depuration of the blood; and a series of lectures on the application of the *science of* chemistry, to the discovery, treatment, and cure of disease, by Dr. Garrod, is now in course of publication, in our contemporary, the Lancet. This diffusion of science is intended to improve practitioners, and not to lower them as a class. In fact, we would as soon subscribe to Ledru Rollin's revolutionary doctrine, that the less a man is educated, the better is he qualified to exercise political rights, as to the suggestion that an acquaintance with literature and science tends to create a bad class of practitioners.

* As we are dealing classically with this notorious quack, we shall here quote a few stanzas from a burlesque epitaph on one of his patients, whose death brought him into great notoriety. Of the patient it says—

Quæ causa mortis
  Infelix Virgo
Aqua Fortis
  Urens a tergo.

And of the rise and progress of the practitioner himself, who is reported to have been originally a needy Irish sign-painter:—

Quis fuit ille
  Johannes præfatus?
O'Driscoll Billy
  Olim nuncupatus.

Medicus? nequaquam,
  Sed pictor signorum
In Tipperariâ
  Inops bonorum

Nunc dives auri
  Sedet sublimis
In curru, celebratus
  Prosâ atque rhymis.

Quæ tantæ famæ
  Fuit origo,
Venter solutus
  Marchionis de Sligo.

Num particeps alter
  Dementiæ vestræ,
Imo sane fuit
  Dominus Ingestrie.

In concluding the oration, Dr. Hawkins alludes with good classical effect and powerful irony to the medical heresies of the present day—the cold-water cure, the wet sheet (involucra madida) homœopathy, mesmerism, &c. Of homœopathy he says—

> "Præ cæteris, autem, isti mihi videntur versuti, qui, 'similia similibus curari,' jactitant, idque, portionibus perexiguis, vel, si Diis placet, perquam minutissimis. Mirabile dictu est, at creditur. Interea isti secure nihil agunt, Naturæ committentes omnia; et diætæ tenui, in qua, mirum est, promissoribus istis, quam dicto audientes sint hiantes ægri. *Quid, si majus quiddam aliquando tentent isti?* Quid, si remediis vel periculosissimis aliquando non dubitent uti? Sed clanculum. Nam cum similes, plerumque, inter se videantur istorum *pilulæ*, at visu tantum, non re, sunt similes. Sint igitur pilulæ illæ lenes et innocuæ; acres hæ, seu modo non mortiferæ: devorentur hæ: si quid male cesserit, examinentur illæ: inveneris quid? nil nisi pulverem, et saccharum lactis. Ergo, quodcunque fiat de ægrotis, isti impune abeunt." (p. 25.)

This passage, it will be seen, refers to the shameful fraud on the part of one of these homœopathic quacks, which we had occasion to expose about a year since, in which a strong dose of morphia was given alternately with a dose of sugar of milk,* and the patient nearly lost her life!

We have devoted some space to this oration, as the majority of our readers may not have had the opportunity of hearing it delivered, and the publication now before us may not fall into their hands. They will perceive from the quotations we have made, that it is not a dry classical production, but that it contains some useful hints and suggestions in reference to passing events. The composition of the oration reflects great credit upon Dr. Hawkins as a scholar and a physician.

Medical Trials and Inquests.

ACTION FOR MALAPRAXIS. POPLITEAL ANEURISM MISTAKEN FOR AN ABSCESS. VERDICT AGAINST THE PRACTITIONER.

John O'Brien v. *Thomas Ambrose, M.D.*

COUNSELLOR SYNAN opened the pleadings. It was an action on the case, brought against the defendant for want of skill as a surgeon in his treatment of the plaintiff. The declaration contained three counts, and damages were laid at £2,000.

Mr. Henn, Q.C., stated the case. He said he appeared for the plaintiff, who appealed to the jury for a certain amount of damages as remuneration for a very grievous injury he had sustained, as alleged, in consequence of unskilful treatment of him by the defendant. The plaintiff was a young man, (aged about 36 years), and some time since had been in comfortable circumstances, but latterly he had been much reduced in life, owing to the injuries he had received at the hands of the defendant, Dr. Ambrose. O'Brien was a farmer residing at Carna, about twenty-five miles from this city, and had a wife and three children. In August, 1846, a small swelling made its appearance just under the knee-joint of O'Brien's leg, which increased by degrees, and as it became more troublesome, induced him to proceed to Rathkeale, where he showed it to an apothecary named O'Hanlon, who gave him some ointment to apply to the swelling, and also a lotion. He did apply it, but without effect, and the swelling became worse. In November he sent to Newcastle for Dr. Ambrose, the defendant in this action, in order that he should afford his professional advice and assistance. His lordship would tell the jury that any person professing to be a surgeon or physician was bound to bring proper skill to bear in the discharge of his duty, and any person not so qualified is liable to an action of damages should the patient under treatment be injured in consequence of his want of skill. Dr. Ambrose proceeded to the house of the plaintiff, where he saw the poor man, and at first, owing to some extraordinary skill peculiar to the doctor, he pronounced the swelling "a blast," the medical meaning of which he (Mr. H.) knew nothing about. Previous to Dr. Ambrose's visit, the brother of the plaintiff had frequently felt the swelling and it yielded when pressed. The doctor reccommended leeches and wrote a prescription, which was sent to Mr. O'Hanlon, the Rathbone apothecary, and the remedies specified were applied, but without any beneficial effect. It was plain Dr. Ambrose mistook the ailment of the patient, and treated it as an abscess. It accordingly got worse, and on the 9th of December the doctor paid a second visit, when he found his patient in a more unfavourable state, and was evidently still of opinion that the ailment was an abscess. The fact was that the ailment was aneurism—that is, an enlargement of the artery—a most dangerous thing, and the jury would hear from the medical men to be examined how aneurism ought to be treated by a surgeon—that treatment which would effect a cure in one case, might cause the loss of life in another. Mr. Henn then explained that Dr. Ambrose punctured the artery with a lancet, and instead of matter issuing from it, pure blood spouted out. This, counsel attributed to the unskilfulness of Dr. Ambrose, who used water, bandages, &c., to stop the bleeding, and on the same night O'Brien was brought into the County Infirmary, where, on a consultation of doctors, it was deemed necessary to cut off the leg in order to save the plaintiff's life, and that amputation accordingly took place, else the patient would have bled to death.

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* See vol. xl. p. 294.

Kennedy O'Brien, Pat. O'Brien, William Bradish, Thomas O'Brien, and Patrick O'Neill, relatives of the plaintiff, were then examined, and deposed to the fact of Dr. Ambrose's having attended the patient, prescribed for him, and ultimately lanced the tumor, from which blood flowed profusely.

Mr. Philip O'Hanlon, of Rathkeale, apothecary, proved that he supplied leeches, ointment, &c., as prescribed by Dr. Ambrose for the patient's use.

Dr. Robert R. Gelston was then called, but on being handed the book refused to be sworn until paid three guineas a day for his attendance, which plaintiff's solicitor refused, owing to his client's poverty.

Dr. John Wilkinson and Dr. Parker (resident medical attendants of the County Infirmary) also refused to give evidence unless paid a like sum.

After some discussion it was ruled by the Court that two guineas a day should be paid to such of the profession as were examined.

Dr. Gelston was then sworn, and deposed to the admission of the patient into the County Infirmary on the 10th Dec., and the condition in which he was—that the man was in such a dangerous state that he, Dr. Gelston, Dr. Wilkinson, and Dr. Russell held an immediate consultation, and decided on amputation as the only means of saving the man's life, and accordingly the limb was cut off instanter. The doctor underwent a lengthened examination, and gave his testimony in so distinct and lucid a manner that every person in court felt gratified at his interesting detail of the appearance and treatment of aneurism, the skill and judgment to be exercised in such cases by a medical man, and other explanations, which proved the familiar knowledge and experience of his scientific medical and surgical qualifications. He admitted that want of skill in the defendant must have led him to treat the patient as described by Mr. Henn.

Dr. John Wilkinson was also produced, and gave similar testimony regarding the unskilful treatment of the patient.

Mr. Coppinger, in addressing the jury, ably vindicated the character of the defendant, and referred to published medical reports with the view of showing that most eminent practitioners and medical men had been mistaken as to appearances, and therefore, that unless the jury believed that in this case a want of skill was apparent, they were bound to return a verdict in favour of the defendant. The learned counsel complimented Dr. Gelston for the exceedingly satisfactory and gentlemanly manner in which he gave his testimony, observing that he had seldom met with a medical witness who displayed more skill, judgment, and general talent in his profession.

The judge then charged the jury, who retired for half an hour, and brought in a verdict for the plaintiff of £100 damages.—*Dublin Medical Press.*

Correspondence.

ON GAS EXPLOSIONS IN HOUSES.—CAUSE OF THE EXPLOSION, AND SUGGESTIONS FOR ITS PREVENTION. BY ALFRED S. TAYLOR, F.R.S., LECTURER ON CHEMISTRY IN GUY'S HOSPITAL.

WHILE much has been said and written on the subject of explosions in mines, but little attention has been paid to the danger which may arise, through accident or from carelessness, by the use of coal-gas for the purpose of lighting houses. Explosions have occasionally taken place, but these have been, for the most part, slight, and productive of no danger to life, and of but little damage to property. The explosion which recently occurred in Albany Street was perhaps one of the most formidable and disastrous in its effects of any that have been recorded since coal-gas was used for the purpose of artificial lighting.

Popular errors.—There is unfortunately much popular ignorance on the subject. Many persons cannot realize the fact that they are deriving light from the combustion of *fire-damp;* and although the journals not unfrequently contain accounts of the most fearful accidents occurring in coal-mines, the public are unwilling to believe that they are exposed to any similar risk by the introduction of gas into houses; yet, as the recent deplorable occurrence testifies, accidents of a most alarming kind may occur, unless great precaution be used. We have heard it, indeed, gravely questioned by well-informed persons whether coal-gas could produce, by its explosion, such an amount of destruction as was caused on this occasion—and gun-cotton and gunpowder have been appealed to as the more probable sources of the accident. Such an opinion only tends to increase the liability to accidents, by diverting attention from the real cause. Gun-cotton and gunpowder act only by producing *gaseous* matter; and when compared with an explosive mixture of gas, their effects are, *cæteris paribus*, far less sudden and tremendous. The entire destruction of a vast coal-mine, with the lives of one hundred persons, by a single explosion of *fire-damp*, should at least teach those who are willing to fly to any explanation rather than the true one, that the explosive force of a mixture of gas with air, when ignited, is quite adequate to explain the occurrence of any amount of destruction. When they are told that there is, chemically speaking, no difference between the fire-damp of mines and that mixture which is speedily made by allowing unburnt gas to escape into a shop or room through a jet, a damaged pipe, or a defective gas-meter, they may then be led to perceive their mistake. To those who know and have experienced, even on a small scale, the effects produced by the ignition of a mixture of hydrogen and oxygen, or of coal-gas and oxygen, it is unnecessary to say a word on so simple a matter.

Composition.—The coal-gas supplied to houses is of very variable composition: it consists of a number of inflammable gases and vapours, all of which, when mixed with a certain proportion of air, are liable to explode with tremendous force. The common purified coal-gas is composed of light carburetted hydrogen, olefiant gas, carbonic oxide, hydrogen, nitrogen, the vapours of naphtha, and bisulphuret of carbon.[*] In the process of purification by lime, the gas loses in great part, but not entirely, the sulphuretted hydrogen and carbonic acid which enter into its composition as it first escapes from the retort during distillation.

A pound of coal will give four and a half cubic feet. The composition of the product when fit for use varies according to the period at which the gas is collected.

	At the beginning.	After 5 hours.	After 10 hours.
Light carbd. hyd. .	82·5	56·	20·
Olefiant gas	13·	7·	0·
Hydrogen	0·	21·3	60·
Carbonic oxide . .	3·2	11·	10·
Nitrogen	1·3	4·7	10·
	100·	100·	100·
Spec. gr.	0·65	0·5	0·34

The amount of hydrogen goes on increasing in proportion to the duration of the process, and the explosive power of the gas thereby becomes increased.[*] It is also worthy of remark, that the gas, even in the beginning, is but little more than half as heavy as the atmosphere. It is, therefore, very light, and in all cases tends to ascend in an apartment—a fact easily demonstrated by experiment. This ascensional power is greatest in that gas which is collected after a ten hours' distillation.

Explosive proportions.—It has been already observed, that the whole of the gases of which coal-gas consists, with the exception of nitrogen, are highly explosive when mixed in certain proportions with atmospheric air. The vapours of naphtha and bisulphuret of carbon are also explosive under these circumstances; and when the coal-gas ascends through a stratum of air in a closed apartment, this explosive mixture becomes speedily formed. In a well-closed room, if not of very large size, every portion of air would, in the course of a short time, become explosive by admixture with the light coal-gas. Owing to a peculiar law which regulates the diffusion of gases, they tend, notwithstanding the greatest differences in their specific gravities, to mingle uniformly in all proportions. This is proved, with respect to coal-gas, by the smell being equally perceptible in every part of the room.

The exact proportion of air required to produce the greatest amount of explosion has not been accurately determined. It is customary to refer to the experiments of Sir H. Davy on light carburetted hydrogen; but it is obvious, from the very variable proportion of this compound in coal-gas, and the presence of other inflammable gases and vapours, that the results obtained by this excellent chemist cannot be strictly applied to mixtures of coal-gas and air. They are, however, probably sufficiently near the truth for all practical purposes. If the gas be in too large or in too small a proportion, there will be no explosion. Sir H. Davy found that, when one volume of gas was thoroughly mixed with *one*, *two*, or *three* volumes of air, the mixture did not explode, but was merely burnt or consumed. When the gas formed from one-*fifteenth* to one-*thirtieth* part of the mixture with air, it did not explode, but the candle burnt with an increased flame. The explosive proportions are those in which the gas forms from *one-sixth* to *one-fourteenth* part of the mixture, and the greatest explosive power was manifested when *one* volume of gas was mixed with *seven* or *eight* volumes of air. In the coal-gas examined by M. Tourdes, it was found that, in order to render it explosive, it was necessary to mix it with *eleven* volumes of air.

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[*] The smell of coal-gas is owing to the presence of these vapours and of some sulphuretted hydrogen. The light carburetted hydrogen, olefiant gas, and hydrogen, when pure, are free from any odour. Gas cannot be deprived entirely of sulphuretted hydrogen without losing much of its illuminating power; and there is no process known by which it can be entirely freed from the vapour of bisulphuret of carbon. It is owing to the presence of these bodies that coal-gas, while burning, produces sulphurous acid, which is not only offensive to respire, but very injurious to furniture. The library at the Athenæum Club was some years since extensively damaged by the sulphurous (becoming sulphuric) acid evolved from the gas-burners. In consequence of this, Mr. Faraday suggested an ingenious plan of burning gas and at the same time carrying off the products of combustion by means of a tube.

[*] According to an analysis, made by M. Tourdes, of coal-gas which had occasioned the deaths of four persons at Strasburg, it consisted, in 100 parts, of 31 hydrogen, 22·5 light carburetted hydrogen, 21 carbonic oxide, 14 nitrogen, and 6 of olefiant gas, with some carbonic acid.

Conditions which modify the explosive force.—In the exertion of this explosive force, much depends on the completeness with which the gases are mixed, and this must be regulated by the time during which they have been in contact. I have safely ignited a mixture of fifty cubic inches of oxygen and olefiant gas in a glass vessel when the mixture had not been made for more than a few minutes; but in one experiment in which the gases had been in contact for several hours, a large glass vessel which contained one hundred cubic inches, was, on the approach of a lighted candle, shattered to dust. The largest piece of glass which could be found after the explosion did not measure more than a quarter of an inch.

The explosive power of coal-gas derived from a distillation of some hours' duration becomes greatly increased by reason of the free *hydrogen* which it contains. In gas collected after ten hours, the proportion of hydrogen amounts, according to Mitscherlich, to no less than *sixty per cent.* The dangerously-explosive properties of this kind of coal-gas (chiefly used in aërostation) may be estimated from the fact discovered by Davy, that *fifty* cubic inches of coal-gas at its maximum of explosive power (*i. e.* eight volumes of air to one of gas), did not produce so loud a report as *five* cubic inches of a mixture formed of two parts of atmospheric air and one of hydrogen. It was also discovered by Davy that the presence of carbonic acid and nitrogen in an explosive mixture of light carburetted hydrogen and air tended to diminish the force of the explosion. In the mixtures which are liable to occur accidentally in houses, this counteracting effect is not likely to operate to any material extent.

Degree of heat required for explosion.—Sir H. Davy found that an iron rod, at the highest degree of red heat, did not inflame explosive mixtures of fire-damp and air, but flame kindled it directly. With respect to the coal-gas of shops, I have repeatedly ascertained by experiment, that the dull red heat of paper, saturated in nitre and ignited, will not inflame or explode it. A poker or bar of iron heated to moderate redness, inflames it immediately.[*] This difference may be probably owing to the presence of hydrogen, olefiant gas, and the vapours of naphtha and bisulphuret of carbon, all of which are kindled by a degree of red heat which would not kindle the mixture of fire-damp and air in coal mines. Accidents in houses are generally occasioned by the flame of a candle.

Cause of the explosion.—It may be observed that the cause of the explosion is the sudden concussion of the air. If any of these explosive mixtures be ignited by the aid of the electric spark *in vacuo*, in glass vessels of great strength, a bright flash of light is observed to pervade the whole of the vessel; but there is no report, or only a very slight sound, at the moment of the discharge. It is well known to chemists, that water and carbonic acid are the chief products—the carbon and hydrogen of the gas and inflammable vapours suddenly and instantaneously combine with the oxygen of the air, and the nitrogen is at the same time set free. It is the sudden expansion of the mixture, during this chemical change, which produces that terrific vibration of the air indicated by the report.[†] Thus, if a soap-bubble, filled with the mixture of gas and air, be exploded while floating in the air, the force of expansion will blow out a candle at some distance from it. If the mixture be exploded in a bottle loosely corked (a dangerous experiment), the cork is always blown out.[‡] This silent expansion of the gases at the time of combination can be easily witnessed and measured in strong glass tubes, graduated for the purpose. Experiments on the degree of expansion during the explosion, can only be performed on a small scale; and it has been found that in a small tube the volume is, at the moment of greatest expansion, *tripled.* There can be no doubt that when some hundreds of cubic feet are kindled, the expansion is much greater than this.

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[*] This experiment also serves to illustrate the extraordinary lightness of coal-gas, especially after it has stood some little time. The glass jar containing the gas should be opened with its mouth downwards, and a piece of dry nitre paper ignited should be gradually raised in it. The thick smoke floats at the lowest level of the jar, and does not rise into the upper part of the vessel, which is filled with the light coal-gas.

[†] This experiment may be safely performed by forcing from a bladder fifty or one hundred cubic inches of the explosive compound into a wide basin, containing a mixture of soap and water. The vessel should be filled to the rim with the soapy liquid: any portion unprotected by the water is liable to be blown off and give rise to an accident.

[‡] In the delivery of chemical lectures, these accidents are liable to occur. I have known a cork and glass tube blown in this way to a height of fifteen feet, by the ignition of a few cubic inches of an explosive mixture contained in a bottle.

The late accident.—From what I have been able to ascertain by inquiry of a surveyor who knew the house, the room in which the explosion occurred had a capacity of 1,620 cubic feet. If the coal-gas were entirely light carburetted hydrogen, the quantity required to give this volume of air its maximum explosive force, would be from about 100 to 200 cubic feet. The mixed nature of coal-gas renders it impossible to say what number of cubic feet must have escaped in order to render the air of such an apartment explosive. If the apartment were of less dimensions, or only a part of the air in the room was rendered explosive, then the escape of a smaller quantity of gas would have explained the result. If the coal-gas contained much hydrogen, a much smaller quantity of it escaping under water pressure, which is generally kept on during the night, would equally account for the accident; since the explosive force of such a mixture has been proved to be ten times as great as that of coal-gas and air. How, or in what way, the coal-gas escaped into the apartment, it is here unnecessary to inquire. The ignition of from 500 to 1,000 cubic feet of a mixture of this kind, would fully and satisfactorily account for the extensive destruction caused on this occasion. This will be fully understood by those who have witnessed the explosive power of 100 cubic inches of the mixed gases.

Test of the presence of such dangerous mixtures.—The smell of coal-gas is an excellent test of its presence. It may be perceived when the gas is mixed with air in far less than an explosive proportion. The smell has been found to be very perceptible, when the gas formed only the 1-150th part of the mixture, and it was still strong when dilated with 500 volumes of air. When in an explosive proportion, the odour is exceedingly powerful: there is, therefore, fair warning of the possible occurrence of danger. The presence of any odour indicates a leakage, which is always liable to increase when the pressure is put on at night, and the gas is not burning. It is proper to remark, that less than an explosive proportion may act as a *poison,* if it be respired for some hours. There are reports of six deaths on record, where persons have been thus killed by sleeping in rooms near to which there was a leakage of gas. M. Tourdes found that an atmosphere containing *one-thirtieth,* or even *one-fiftieth* part of coal-gas, seriously affected animals. It cannot be too strongly impressed upon the minds of those who use gas in dwelling-houses, that where a smell is perceptible, the defect should be immediately found out and remedied. When the leakage is comparatively slight, it may endanger the lives of those who sleep in or near the spot; and when it has reached a higher point, it may lead to a serious accident by explosion.

Prevention of accidents.—The observance of a few simple rules would suffice to prevent accidents. 1. The gas should be commanded by *two* well fitted *stop-cocks,* one at the main, and another at the burner. 2. *No smell* of gas should be perceptible in the room after it has been turned off. Any escape of gas will easily be detected by the smell if the room be closed for a short time. This should not be suffered to continue, as it is a clear proof of some defect. Gas will escape through the minutest apertures or chinks. 3. The *free access of air* to the room, by leaving the door open. It would be proper, if possible, to leave a portion of the window down, or to have one of the upper panes of glass removed, and a pane of perforated zinc substituted. A hole in the shutter might allow of the communication with the outer air. The free ventilation of a room in which gas has been burning, is advisable under all circumstances, as it tends to remove the air vitiated by combustion. In the event of any leakage, it will, by leading to the extensive detection of the gas, tend to prevent the formation of an explosive mixture. If it be inconvenient to procure ventilation by the door or window, an aperture made into the chimney near the ceiling, and protected by a closed valvular plate, which would admit of being drawn down when the gas is turned off, would tend to prevent a dangerous accumulation. The light gas would find its way into the chimney, and its escape would be aided if the inner door of the apartment was left open. 4. When a smell is perceived, although slight, in or near a room supplied with gas, it would always be a safe precaution to extinguish any light, and open the doors and windows for a short time before venturing near the spot with a lighted candle.

It will be seen, therefore, that the great principle of safety, is to have a free ventilation, especially at the *upper part* of every room which is supplied with gas. If, in a small room, there be a leakage, which is neglected, and the doors and windows be completely closed for two or three hours, it is certain that there will be formed a most dangerous explosive mixture, which only requires the approach of a lighted candle to produce such a fearful accident as that which has been lately witnessed. It is the illustration of the fire-damp in mines on a small scale, with the difference, that while the miner cannot prevent the accumulation of the gas from the coal strata, and he cannot secure a perfect ventilation, the gas-burner has it in his power to adopt both of these precautions. In most shops, there is tolerably free ventilation: hence, accidents from coal-gas are by no means common.

Since these remarks were written, an inquest has been held, and Dr. Arnott was called upon to give evidence respecting the cause of the explosion in Albany Street. I am glad to find myself supported in these views by so competent an authority as Dr. Arnott.

THE UPTON-ON-SEVERN UNION AND POOR-LAW MEDICAL RELIEF.

To the Medical Profession.

Gentlemen,—The thanks of the late Medical Officers of the Upton-on-Severn Union are due to you as a body, for the sympathy with which our address of July 6th has been received by you; and the almost unlooked-for support and encouragement which have met us in all quarters; for the generous and manly spirit with which our cause has been advocated by the Medical Journals; and for the courage and magnanimity with which the profession, more especially in our own county, has put itself forward to make common cause with us.

The general testimony we have thus received shall unite us to increased exertion, to unflinching perseverance, in a cause sanctioned by every principle of truth and equity—a cause to which we are happy to find all the intelligence of our own county is rapidly giving in its adherence, and in which, though no longer personally and pecuniarily interested, a sense of principle will urge us forward to overthrow the bulwarks reared by vulgar cunning and callous hypocrisy. Yet a little longer—let us hold together yet a while, and this event *must* occur; no other result can seriously be contemplated.

It now becomes our duty, as briefly as possible, consistently with making ourselves properly understood, to continue our narrative of the proceedings in this Union; and although we are unable to state that our hopes and predictions have been fulfilled to the very letter; although we have been met by treachery almost in our own camp; although the search through the *lanes* and alleys of the profession has been attended with more success than that of its highways,—we yet feel that we have ample room for congratulation on the healthy spirit pervading the profession in general; and that by any less sanguine than ourselves, our hitherto partial success will be deemed a most unexpected triumph. Of the facts which we have to lay before you, some will elicit your approbation, others your regret: some there are, which, if they fail to raise your astonishment, will, we are assured, excite your contempt and indignation. Had our propositions met at first with the fullest success, our *general* cause could not have been put forth in the same glowing light, nor the same extensive moral results have been obtained, as must now inevitably be the case. It will be in your remembrance that at the meeting of the Board of Guardians, on July 20th, the districts of this Union were altered and consolidated; reduced in number from seven to five; and that advertisements were issued to the profession for tenders: we briefly recapitulate the names, extent, population, and salary of these districts.

No. of District.	Name.	Population.	Acres.	Salary.
1 or	Upton	6,312	18,020	£83
2 or	Workhouse			20
3 or	Eldersfield	3,409	16,040	70
4 or	Kempsey	2,203	7,840	40
5 or	Powick	1,598	5,430	20

The tenders for these districts were to be sent in to the Board at their meeting, on August 3rd, that being the day on which our resignations took effect. We also beg you to carry in your mind, that an Assistant-Commissioner, Mr. Greaves, was present at the meeting of July 20th, and that, to the best of our knowledge, the question was asked by him, whether the Board were of opinion they could procure fresh officers of equal professional standing and respectability with those whose resignations had been tendered; that he was met by an unhesitating affirmative; and that on this understanding, the arrangements of the Board (two of the districts being, as you observe, over the legal acreage) received the *provisional* sanction of the Poor-Law Board. On the 3d of August, then, two tenders were presented to the Board: one for the 1st and 2nd districts, the other for the 3rd district. For the 4th and 5th districts no tenders appeared. A gentleman named Sheward was placed in nomination for the 1st and 2nd districts; but no application, personal or written, having been made by him, we are unwilling to make him a third in so unenviable a category; we will rather presume that he was nominated without his authority.* Acting under the advice of our friends, and to take from our opponents the paltry excuse of our not tendering, we also sent in a joint tender on the same occasion. The following is a copy, and it will be observed that we apportioned the salaries in exact accordance with our previous resolutions and application to the Committee:—

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* This, we are informed, is strictly correct: Mr. Sheward did not apply for any one of the districts, and he was nominated without his being a party to, or concurring in such a step.

To the Chairman and Board of Guardians of the Upton-on-Severn Union.

GENTLEMEN,

We, the undersigned, beg to offer you our services as Medical Officers to this Union, for the Districts and at the salaries specified below.

We remain, gentlemen,
Your obedient servants,
H. S. Trash—Joseph Mecars—
Chas. Braddon—W. T. White
—C. E. Prior.

No.		At a salary of	
2.	Workhouse . . .	£35	H. S. Trash.
5.	Powick District .	27	J. Mecars.
1.	Upton District . .	120	C. Braddon.
4.	Kempsey District .	54	W.T.White.
3.	Eldersfield District	90	C. E. Prior.

Although several *ex officio* Guardians were at the Board prepared to support our tender, it was laid aside, and treated with contempt; the Board resolving, that, as it was not in accordance with the terms of the advertisement, it could not be entertained. The tenders of the two other parties were accepted. The tender of Mr. Henry Brunning Marsh, who offered himself for the 1st and 2d Districts, was accepted, and the tender of Mr. John Nelson Thomas for the 3d District was also accepted. The 4th District was also placed under Mr. Marsh's charge (thus making an extent of 26,000 acres under one practitioner). The care of the sick poor in the 5th District was confided to Mr. William Corner West, who volunteered his services *thus* to assist his brethren! and to relieve the Board from a difficulty which would otherwise have been insurmountable. These appointments have not yet received the sanction of the Poor Law Board; nor will they, under any circumstances, be sanctioned for more than twelve months. This we have from the Poor Law Board itself.

And now, gentlemen, a word as to "equal standing and respectability." The medical men who have just resigned their offices are men of unblemished character, of unsullied reputation: they have discharged their several duties carefully, faithfully, conscientiously; and can refer with pride and satisfaction to the estimation in which they are held in their different localities.

The newly-elected officer of the 1st and 2d Districts, and temporary holder of the 4th, Mr. Marsh, resigned a medical district in this Union in the month of November, 1844, upon an investigation into an alleged charge of neglect made against him as to the death of a pauper, conducted by this Board of Guardians in the presence of an Assistant Poor Law Commissioner. On this occasion the Board decided that a case of gross neglect had been made out. He was subsequently elected, in the autumn of 1846, to a small district in this Union for a *probationary* term of six months. He was re-elected in May 1847, for another probationary term of twelve months, at the expiration of which period he was out-voted by the Board, and another medical officer appointed in his room; and yet the constant practice in this Union for a period of years has been to make the appointments of Medical Officers permanent.

We leave you, gentlemen, to draw your own inferences from these facts. And now for Mr. John Nelson Thomas, the Medical Officer (!) of the 3d District. Mr. Thomas does not possess the College Diploma; consequently he is not duly qualified as a Poor Law Medical Officer. Mr. Thomas, in the summer of 1843, perceived it to be to his advantage to resign his appointment as a Medical Officer in this Union, in consequence of the occurrence of certain unpleasant circumstances, which are recorded in the minute-book of the Upton Board of Guardians. Mr. Thomas was not dismissed —he only resigned his appointment; and so, by the way, did Mr. Marsh.

Thirdly, as to the 5th District, Mr. Wm. Corner West, of Great Malvern, like Mr. Nelson Thomas, is but half qualified, having only the Diploma of the College (at least, so Churchill's Directory affirms). Mr. West was a man whom we had always recognised and treated as a brother officer, on whose support and assistance we had fully relied. As surgeon to the Malvern Dispensary, Mr. West has the charge of the poor of Malvern and two adjacent parishes in this Union—the Guardians being subscribers to the Dispensary, and such being found the best method of managing that district. Although Mr. West, therefore, was not a regular officer of the Union, yet it was judged courteous to invite him by circular to our first meeting. An answer was received from Mr. West, expressing the warmest concurrence in our objects, ***and authorising us to attach his name to our resolutions.*** Accordingly, Mr. West's name *was* attached to them, and forwarded, with our own signatures, to the Board of Guardians. In subsequent letters Mr. West retracted this permission, on the plea that he had understood our resolutions to be for the Poor Law Board, not for the Board of Guardians, with whose arrangements, not being a regular officer, he did not consider himself privileged to interfere;—but all the letters breathed a spirit of encouragement and sympathy, although the writer appeared scarcely sanguine of success. Let the profession, then, picture to itself our astonishment at hearing that Mr. West had volunteered his services for the Powick District.

Such, gentlemen, are the facts of this most glaring case, and thus far have they gone. Have they given you no surprise? are the proceedings of Boards of Guardians elsewhere guided by the same principles? and are the interests of the poor always, think you, the first object of their solicitude? We have received a reply to the statement which we forwarded to the Poor-law Board, through the official reserve and brevity of which we flatter ourselves we can detect somewhat of a favourable spirit. We have also submitted to their consideration the same facts we now lay before you; and we have every hope, from the well-known good feeling and rectitude of Mr. Buller and his colleagues.

We hesitate not to avow our pride in having struck the first blow in so good a cause. Let us *all* join heart and hand to follow it up. The Poor-law Board have told us that —"It does not appear to them that the total amount of medical salaries in this Union, as measured by the population and area, is unusually low when compared with other similarly situated agricultural Unions." Be it so: we are grateful for the statement of this fact—so much the better for our purpose—so much the more reason for an immediate adoption of our line of conduct in other Unions. Let a similar course to ours be pursued but in two or three instances, it scarcely needs more, and we venture to predict that the days of poor-law tyranny over our profession are numbered; and that the whole iniquitous system will speedily sink before the current of public reprobation. We complain not of any peculiar hardship; nor do we wish to convey the impression that there has been anything in the circumstances of the ex-officers of this Union to *justify* the step they have taken more than in hundreds of similar instances throughout the country; yet let it not be supposed that we are possessed, in the slightest degree more than our compeers, of an immunity from what is generally feared as the consequence of such a proceeding. No, gentlemen, we contend for a principle more than for particular interests; and are fully aware of the nature of our undertaking: we know that as a body we must bear the full tide of parochial wrath, and official abuse,—we have been charged with using a threat, where we only intimidated an alternative—as individuals, the busy tongue of slander will not be wanting to defame the purity of our intentions, nor the voice of prudential counsel to undermine our resolution. Aided and encouraged by you, we pass over and despise all these minor troubles.

Now let our examples be followed firmly quietly, in a gentlemanly, but decided spirit. We frankly avow that in measures of this sort, we have more confidence than all the societies, institutes, and conventions, which decorate our profession. The slang of the day has been brought to bear upon us,—we have had the free-trade jargon of "competition,"— of "young men glad to come forward,"— of a "profession overstocked,"— of "lots of doctors in the market," &c., applied to our case,—we have stood the brunt of it, and you see the result, how paltry, how miserable! You have yet to witness the ignominious failure of our opponents.

Within a fortnight we hope to read in the Medical Journals, that our example has been followed, that others, without any more delay or temporizing, have resolved on the downfal of the present abominable system of the Poor-Law Medical Relief.

We remain, gentlemen,
Your faithful friends
and servants,
CHAS. BRADDON,
WILLIAM TODD WHITE.

The deputation of the late Medical Officers of the Upton-on-Severn Union.

Upton-on-Severn, August 15, 1848.

Medical Intelligence.

THE ASIATIC CHOLERA.

THE cholera was very mild in Constantinople. It has manifested itself at Adrianople, and with much severity. It was declining in some parts of Russia, and the Russian physicians had declared that its ravages had been principally owing to the inordinate abuse of spirituous liquors by the people.

CHOLERA IN EGYPT.

BY letters from Alexandria, dated August 1st, it appears that the cholera has broken out throughout all Egypt, with more or less intensity. It made its appearance about the middle of last month in a town of the Delta, called Tantah, where an immense number of people, amounting to about 165,000, were assembled in pilgrimage from all parts of Egypt and Syria to celebrate the festival of a Mahomedan saint. In Cairo, during the last week, there have been about 300 cases daily; here, about 120; in most of the villages on the Nile there are daily cases: and it is much feared that the number will materially increase during the present month of Ramadan, which began yesterday, when the natives fast all day, and commit excesses during the night. Before the people dispersed at Tantah, it is said that there must have been upwards of 3,000 deaths from this disease.

UNIVERSITY OF LONDON.—FIRST EXAMINATION FOR THE DEGREE OF BACHELOR OF MEDICINE.

First division.—William Ayre, London Hospital; E. Enfield Barron, Guy's Hospital; J. Syer Bristowe, St. Thomas's Hospital; E. W. A. Day, Queen's College, Birmingham; Robert Growse, Guy's Hospital; W. M. G. Hewitt, University College; Edward Jackson, University College; J. Henry Lakin, King's College; R. Benson Lewis, Leeds College of Medicine; Edmund Manley, Royal Manchester School of Medicine; J. Arthur Payne, King's College; James Rigby, University College; William Ryan, Middlesex and Jervis-street Hospital; H. Hyde Salter, King's College; S. J. A. Salter, King's College; C. J. Shearman, University College; W. H. Thornton, Royal Manchester School of Medicine; John Wood, King's College.

Second division.—G. H. Bailey, University College; A. H. Hassall, Royal College of Surgeons in Ireland; Thomas Jeston, King's College; H. Smyth, Locock, St. Thomas's Hospital; R. Deverell Pyper, Middlesex Hospital; J. R. Reynolds, University College; Francis Sibson, University of Edinburgh; Henry Welsh, King's College; John Wilkins, King's College.

Selections from Journals.

FORENSIC MEDICINE.

A CASE OF ALLEGED RAPE, TRIED IN THE ST. LOUIS CRIMINAL COURT. BY CHARLES W. STEVENS, M.D.

A YOUNG man, by the name of M'Comas, was charged with an attempt to violate the person of Mary Young, a child about nine years of age. The testimony went to show, that the prisoner, at two different times, had taken the girl upon his lap and raised her clothing. At one time this occurred in M'Comas's private room, and again when they were riding in a buggy. In both instances the girl sat sideways upon his lap. The mother discovered stains upon the drawers of the child, resembling those made by seminal fluid. She charged the daughter with having permitted some man to meddle with her. When threatened with chastisement, she gave the name of M'Comas. The mother examined the private parts, and found them inflamed, and discharging matter, the discharge still existing [a period of several weeks]. A respectable medical gentleman of the city was called to the case immediately after the disease was discovered by the mother. He examined the stains upon the clothing; thought they might have been produced by seminal fluid; was not certain that such was the case; stains resembling them might be caused by other discharges; young girls were subject to diseases in which there were discharges from the genital organs; found the nymphæ and orifice of the vagina in a state of inflammation.

I was called to visit the girl about eight days after the gentleman above referred to. I did not see the clothing or the stains examined by the other physician; found the labia, nymphæ, and orifice of the vagina inflamed, accompanied by a muco-purulent discharge. Visited her again a few days after; found the parts still inflamed, and the discharge more abundant, and mixed with blood. Saw her again five weeks after my first visit; the inflammation had nearly subsided, but the discharge was still considerable, and somewhat bloody; *found the hymen uninjured.* The physician regularly employed by the prisoner, testified that he had not been called upon to prescribe for gonorrhœa. In the above, all the prominent or essential points of the testimony relating to the facts of the case, are fairly stated. The prisoner was sentenced to three years' confinement in the Penitentiary.

Now, whether justice has been done to the prisoner in this instance I am unable positively to say; but I was forcibly impressed with the truth of Sir Matthew Hale's remark upon this crime, when he says, "It is an accusation easy to be made, and harder to be proved, but harder to be defended by the party accused, though innocent." Taylor, in his work on Medical Jurisprudence, says, "That for one real case of rape there are ten pretended cases." Our works on legal medicine abound with reports of cases, where persons have been unable to defend themselves against these charges, and have suffered, not only in the loss of reputation, but by imprisonment, and the severest penalties in the power of the law to inflict; and yet, after-developments or disclosures have shown them to be innocent.

The case of M'Comas was one in which but little positive testimony was adduced. It was one of those perplexing cases in which nearly all the witnesses, especially the medical witnesses, expressed their opinion with the greatest caution and reserve; and this of necessity, because unable to arrive at definite conclusions upon the subject. A prominent purpose on the part of the prosecution, after failing by positive testimony to prove connection or an attempt at the same, seemed to be, to convince the jury that the girl was affected with gonorrhœa; and it was upon this point the case hinged, as must have been apparent to all who attended the trial. In fact, I was so informed by one of the jurors after the decision. If it had been fully established that Mary Young was affected with this disease, the jury would certainly have had better reason to conclude that the prisoner communicated the disease to her. The jury did not convict M'Comas because stains were found upon the drawers resembling those made by seminal fluid, for the child had at this time a discharge from the vagina that fully accounted for the stains; they did not find him guilty alone upon the testimony of the child, for she stated that she sat upon his lap sideways, and in no other manner. The jury must have reasoned in this way:—The girl sat upon the lap of M'Comas; she afterwards was attacked with gonorrhœa: therefore, he attempted to commit a rape upon her, and the charge is sustained.—Now, leaving out of view the fate of the prisoner, as well as the justice or injustice of the verdict, let us ask the question,—Can any physician, in a case like this, guided by the best lights in the profession, determine with such certainty as to enable him to testify in a court of justice, whether the disease be *gonorrhœa*, or *vaginal catarrh* of some writers, or the *muco-purulent* discharge which young girls are subject to from a variety of causes?—*Missouri Medical and Surgical Journal*, and *British American Journal*, May 1848.

A NEW MODE OF RECLAIMING HABITUAL BRANDY DRINKERS.

BY DR. SCHREIBER.

This plan consists in confining the person treated to one room, and giving him brandy in all his drink, whether water or coffee, and mixing brandy in small quantities with all his food. 139 soldiers were treated by Dr. Ritzous, at Stockholm, under this system. During the first few days, from five to seven, this new regimen pleased the patients much. They were in a state of continual joyous intoxication. The pulse became full and slow; the tongue red and moist. All complained of a sense of burning in the region of the stomach. The stools were regular; the urine red and scanty; the skin moist. The pupils were neither contracted nor dilated. About the end of the fifth or seventh day, the excitement of intoxication ceased; the patient came to himself, but was languid and silent. The sensation of burning in the stomach became more acute, and was accompanied by inextinguishable thirst. The tongue became yellow about the edges; the stomach could take neither food nor drink, but they were immediately rejected by vomiting. The greater number gave up eating. The pulse was small, weak, and trembling. At the end of from two to four days, this state disappeared in its turn, and the patient recommenced eating and drinking. Some were again attacked with intoxication during six or eight days; and when they came to their reason, they always preserved an invincible repugnance for food and drink mingled with brandy. In six of the men, slight delirium, which disappeared of itself, remained after the end of the treatment.

All the persons thus treated were carefully examined by medical men: it was considered important to direct attention to the thoracic and abdominal organs, and to inquire if there existed no disposition to apoplexy and cerebral congestion.

The duration of the treatment varied from six to twelve days; for some it required twenty days, including the time required for the treatment of the convalescence. This consisted in a new regimen—substituted for that with brandy, which had produced such an aversion that even its odour excited nausea. At first, pure water was given in small quantities, then milk, or gruel, and, by and by, other kinds of food were also given, but always in small quantity.

The treatment was suspended in seven individuals: in two owing to convulsions; in three from the vomiting of blood; in one from hæmoptysis; and in another owing to a blow received by the patient on the head.

No other disagreeable results followed the treatment: indeed, those submitted to it appeared to enjoy better health than they had previously. One only was attacked by melancholy, and cured by laxatives.

One man was obliged to suspend the treatment on the sixth day, he being then threatened with cerebral congestion and symptoms of irritation in the abdominal organs. He was cured by cold applications to the head, and purgation with castor oil. When he recovered, he had completely lost his taste for brandy.

Of the whole garrison, 139 men were treated on this plan of Schreiber—128 were completely reclaimed from drunkenness, 4 relapsed, and 7 were obliged to suspend the treatment. The greater number were from 20 to 25 years of age.

In this mode of treatment, strict surveillance on the part of a medical man is necessary. Results so satisfactory as those just recorded cannot be always expected: relapses may take place after apparently the most complete recovery; but it is not less certain that this plan of treating so widely-spread and ignoble a vice merits all the attention of the physician.—*L'Union Médicale.* Z

⁂ There is another point which it may be as well to consider in adopting this singular method of treating drunkenness, viz. whether, if death should ensue from it, the practitioner might not have to answer a charge of poisoning by alcohol.

BIRTHS & DEATHS IN THE METROPOLIS

During the week ending Saturday, Aug. 19.

Births.		Deaths.		*Av. of 5 Sum.*	
Males....	669	Males....	506	Males....	495
Females..	619	Females..	513	Females..	477
	1288		1019		972

(36 *in number;—Registrars' Districts*, 129. *Population*, in 1841, 1,915,104.)

West—Kensington; Chelsea; St. George, Hanover Square; Westminster; St. Martin in the Fields; St. James .. (Pop. 301,326)	145
North—St. Marylebone; St. Pancras; Islington; Hackney ...... (Pop. 366,303)	192
Central—St. Giles and St. George; Strand; Holborn; Clerkenwell; St. Luke; East London; West London; the City of London ....(Pop. 374,759)	188
East—Shoreditch; Bethnal Green; Whitechapel; St. George in the East; Stepney; Poplar ....(Pop. 393,247)	208
South—St. Saviour; St. Olave; Bermondsey; St. George, Southwark; Newington; Lambeth; Wandsworth and Clapham; Camberwell; Rotherhithe; Greenwich ....(Pop. 479,469)	286
Total	1019

Causes of Death.		Av. of 5 Sum.
All Causes	1019	972
Specified Causes..............	999	968
1. *Zymotic* (or Epidemic, Endemic, Contagious) *Diseases* ..	384	257
Sporadic Diseases, viz.—		
2. Dropsy, Cancer, &c. of uncertain seat	35	45
3. Brain, Spinal Marrow, Nerves, and Senses	109	120
4. Lungs and other Organs of Respiration	80	80
5. Heart and Bloodvessels	28	28
6. Stomach, Liver, and other Organs of Digestion	75	79
7. Diseases of the Kidneys, &c...	11	8
8. Childbirth, Diseases of the Uterus, &c.................	5	10
9. Rhematism, Diseases of the Bones, Joints, &c.	5	7
10. Skin, Cellular Tissue, &c.......	0	1
11. Old Age	29	50
12. Violence, Privation, Cold, and Intemperance	27	8

The following is a selection of the numbers of Deaths from the most important special causes:

Small-pox	32	Paralysis........	20
Measles	9	Convulsions	35
Scarlatina	115	Bronchitis	22
Hooping-cough..	18	Pneumonia......	34
Diarrhœa	81	Phthisis	107
Cholera	17	Dis. of Lungs, &c.	12
Typhus	61	Teething	16
Dropsy..........	15	Dis. Stomach, &c.	5
Sudden deaths ..	5	Dis. of Liver, &c.	10
Hydrocephalus..	27	Childbirth	3
Apoplexy........	21	Dis. of Uterus, &c.	2

Remarks.—The total number of deaths was 47 above the weekly summer average.

METEOROLOGICAL SUMMARY.

Mean Height of Barometer .... 29·75
" " Thermometer[a] .... 59·
Self-registering do.[b] .... max. 91· min. 38·8
" in the Thames water — 63· — 61·

[a] From 12 observations daily. [b] Sun.

Rain, in inches, 0·91: sum of the daily observations taken at 9 o'clock.

Meteorological.—The mean temperature of the week was 2·6° below the mean of the month.

BOOKS RECEIVED DURING THE WEEK.

The Hand phrenologically considered.
The Vegetarian Advocate, late Truth-tester, No. 1.
Continental Travel: with an Appendix on the Influence of Climate, &c. By Edwin Lee, Esq.
Comptes-rendus, Nos. 5, 6, Juillet 31 & Août 7.
Casper's Wochenschrift, 29. Juli.

NOTICES TO CORRESPONDENTS.

R. R.—Dr. West's Lectures are now completed, and they will shortly be published in a distinct volume. Dr. Watson's Course, as published in this journal, consists of 88 Lectures. They will be found in Vol. 27 to Vol. 30 inclusive.

Dr. Snow's paper, in continuation, has been received.

C. A.—A note will be sent, and the papers returned.

Received.—Beta.

THE GENERAL INDEX.

We have to announce to our Subscribers that a General Index to the *first* 40 *Volumes* of the London Medical Gazette will, it is calculated, form a large Volume of about 700 pages. The cost of the Index Volume, respecting which many inquiries have been made, will be Twenty-four Shillings; and it is proposed to commence it so soon as the Names of *Five Hundred Subscribers* have been obtained.—The printers, Messrs. Wilson and Ogilvy, 57, Skinner Street, will receive the Names of Subscribers.

Lectures.

COURSE OF SURGERY,

Delivered in the years 1846 *and* 1847,

By Bransby B. Cooper, F.R.S.

Surgeon, and Lecturer on Surgery at Guy's Hospital.

Lecture XXXVI.

SURGERY OF REGIONS—*continued.*

Continuation of abdominal region—epigastric region—abscess of liver—distension of gall-bladder. Scirrhus of the pylorus—case. Aneurismal tumors—hypertrophy of the spleen—case. Adhesions between duodenum and liver. Umbilical region—urinary discharge from umbilicus—case—umbilical tumors. Obstruction in the intestines—its causes—surgical operation for relief of—question as to its admissibility. Abscess in the lumbar region—case. Hypogastric region—surgical importance—disease of the sigmoid flexion of the colon. Inguinal canals—their liability to morbid changes—arrest in descent of testicle—anomalous symptoms—cases. Varicocele—treatment. Hydrocele of spermatic cord—difficulties in diagnosis—treatment. External iliac artery tied in this region. Pubic region—removal of diseased ovaria—greater and minor operations—comparative danger—puncturing urinary bladder. High operation for stone.

I have hitherto, gentlemen, directed your attention to the pathological considerations resulting from lesions occurring from without to within—that is, from the parietes towards the cavity of the abdomen; but there are many diseases which take their rise within the cavity itself: these sometimes require surgical as well as medical treatment; and you will find that in them, as well as in cases of injury from external violence, the strict observance of the system of regional division will afford very great facility in forming your diagnosis.

In the epigastric region, for instance, tumors are often formed, the true character of which must be judged of rather by the disturbance they cause in the functions of the important organs contained in this part, than by the physical constitution of the tumor itself. A fluctuating tumor may, for example, present itself in the right hypochondriac region concomitantly with great disturbance to the functions of the liver; and in such a case it would be almost impossible, without strictly investigating the history of the complaint from the very first symptom, to distinguish a distended gall-bladder from an abscess in the liver. If, under these circumstances, a mistake should be made, and the gall-bladder be punctured instead of an abscess, there would be great risk of extravasation of bile into the peritoneal cavity, which would be certain destruction to the life of the patient.

It is not my province to detail to you, gentlemen, the symptoms in cases of this kind; but I feel it right to warn you against surgical interference in them, as it may lead to the most unfortunate results. Another description of tumor is sometimes formed in this locality,—it is situated just at the junction of the scrobiculis cordis with the right hypochondriac region, and can generally only be felt by pressing the finger upon it with some force, the pain being at the same time greatly aggravated by the pressure. This tumor is usually attended by vomiting, which takes place an hour or two after eating, and is sometimes accompanied by pyrosis.

The patient is generally past middle life when the disease manifests itself, and he complains more of emaciation than of positive suffering: this is scirrhus of the pylorus—an affection which invariably proves fatal. On the day of the coronation of George IV. Sir Astley Cooper and myself were in the house of a lady to witness the procession, and while standing at the window, she cursorily mentioned to Sir Astley that she always brought her food off her stomach about an hour and a half after she had eaten. Sir Astley requested her to allow him to examine her, and, when after being absent a few minutes, he returned to me, he said, "Mrs. C. will not be alive this day three months." Before that period had elapsed, she was dead. Such a case, you will imagine, could not come frequently under the notice of the surgeon, but at the same time it is quite necessary that you should know something of the physical characters of the disease, in order that you may, from the recital of certain symptoms, be able to perform those examinations upon which your diagnosis is to be founded.

Aneurismal tumors are not unfrequent in the epigastric region, and they may so far interfere with the functions of the stomach as to induce the supposition that that organ was the subject of disease. Its disorder is, however, only secondary, proceeding from the existence of the tumor: hence it becomes of the highest importance to make the most minute and careful examination, when such anomalous symptoms present themselves. In the left hypochondriac region, a large tumor, resulting from hypertrophy of the spleen, sometimes presents itself: this is a condition which often follows protracted

XLII.—1083. *Sept.* 1, 1848.

intermittent fever, and it interferes materially with the functions of both the stomach and liver: this is not to be wondered at, when we consider that the spleen, stomach, and liver, all derive their blood from the same branch of the aorta. Cases have occurred in which the spleen has become separated from its attachment to the diaphragm and stomach, and even descended as low as the left iliac region. The late Dr. Babington has described a case of this kind, which occurred in his practice. Enlargement of the spleen is not, however, so frequent a disease as is supposed, and encysted tumors of the ovaria are sometimes mistaken for it. I remember being once present in consultation with Sir Astley Cooper and Sir Charles Clarke, on a case of ovarian dropsy, wherein, after I had drawn off the fluid, Sir Astley Cooper directed our attention to a large tumor. which was particularly distinguishable from the flaccid state of the abdominal parietes. Sir Astley remarked, that he had never before seen the spleen so completely retain its form under such a great increase of size. Sir Chas. Clarke replied, that he did not believe it to be the spleen, as he had never known that viscus to be enlarged in ovarian dropsy. About six weeks after, the patient died, and a post-mortem examination shewed Sir Charles Clarke's opinion to be correct, as the tumor consisted of an abnormal growth from the diseased ovarium. I mention this case, gentlemen, as I consider it illustrative of a very important fact connected with the pathology of ovarian disease.

In obstinate cases of jaundice, deeply-seated tumors are sometimes formed in the epigastrium, generally in the neighbourhood of the junction of the cartilages of the seventh and eighth ribs. The tumors are not unfrequently the result of adhesion between the duodenum, the liver, and Glisson's capsule, interfering with the passage of the bile from the liver to the duodenum. When the patient presents a greenish-coloured complexion, I always suspect that the pancreas is involved in the disease, and then examine this region with great care, to ascertain if there be any perceptible enlargement of that organ.

In infancy it is not uncommon for a urinary discharge to take place from the umbilicus, in consequence of the open state of the urachus: in such a case you should first ascertain that there is no obstruction to the passage of the urine through its natural canal, and if that should be the case, as frequently happens from congenital phymosis, the cause of the obstruction should be removed, and then, upon gentle pressure being applied to the umbilicus, the urachus generally closes, although there have been instances in which the defect was never remedied.

Some years ago I admitted a patient into Guy's Hospital who had been for many years suffering from stricture of the urethra; and in consequence of frequent attacks of retention of urine, his bladder had become so much enlarged as to rise into the umbilical region. From the history of the case, it appeared that during one of these attacks he was seized with peritonitis, which required the adoption of prompt antiphlogistic means to subdue it; and external inflammation around the umbilicus, with a deep-seated pain in the bladder, then supervened. In a few days a small abscess burst in the umbilicus, and urinous discharge followed; indeed, when he was admitted into the hospital, he passed as much urine by the umbilicus as by the natural passage.

The plan I adopted for his relief was to fasten an elastic gum catheter in the bladder, for the purpose of keeping the urine constantly flowing, and preventing any accumulation in the bladder; but, as the constant pressure of the instrument caused great pain and irritation, I changed my plan, and ordered his urine to be drawn off four times a day: he soon became expert enough to do this himself; when, unfortunately, the catheter one day broke during its withdrawal, and a third of its length was left within the bladder. A fresh train of symptoms resulted from the presence of this foreign substance; and after trying, unsuccessfully, every means I could think of for its removal, I was obliged to perform an operation similar to that of lithotomy: the patient readily recovered; and I then redirected my attention to the original complaint, which remained unrelieved. I resumed the plan of frequently drawing off the water, and proposed to endeavour to close the opening by a plastic operation: this was consented to, and I performed it by paring the edges of the fistula, and drawing over a portion of the neighbouring skin, which was accurately adapted, and firmly secured by suture: peritoneal inflammation set in, however, and the patient died. This case is not only remarkable from the discharge of urine through the umbilicus taking place without any congenital malformation, but it is also important from the circumstance of peritoneal inflammation following the operation itself, or arising from the irritative influence of the sutures: at the same time, it is clear that the constitution of the patient had not been much deteriorated by the original disease, as the operation of removing the catheter from the bladder was sustained with so little disturbance to the general health.

Tumors sometimes form in the region of the umbilicus, from protrusion of viscera;

these tumors constitute what are termed umbilical herniæ. A general distension, with a fixed pain in the umbilical or lumbar regions, may, however, result from some obstruction within the intestinal canal; such a condition produces constipation and sickness, and it is only from the local tenderness, and the history of the case from its commencement, that the exact seat of the disease can be ascertained: if vomiting be the prominent feature, the obstruction may be referred to the small intestines; if constipation and tympanitis, with slight vomiting, only be present, the obstruction is, in all probability, in the large intestine: in either case, if the symptoms do not yield to the prescribed remedies, it becomes a question whether abdominal exploration is not justifiable. It sometimes happens that the small intestines become strangulated by a band of lymph thrown out from the mesentery, or by a portion of one intestine passing under a band of adherent matter connecting two other portions to each other: nothing but the liberation of this constriction can restore the patient to health; but it is doubtful whether any operation is admissible, as it is impossible to tell the exact point at which the obstruction exists; still, as the exploration offers the only chance of relief, we ought perhaps to be careful how we hesitate to make the attempt. The obstruction may also occur from intus-susception of a portion of intestine; if the operation of exploration were resorted to in this defect, there would not only be the difficulty of discovering the point at which it existed, but there is great doubt whether, in such a protracted case, the parts, when restored to their normal form, would be competent to perform their natural functions. Even if the operation should be determined on, the greatest difficulty appears to me to lie in deciding as to the proper moment at which it may be performed with least risk; for, although little chance of a successful result exists if it be delayed until the last moment, yet no one would venture upon it while there remained the slightest probability that nature might herself effect the removal of the obstruction. When, from protracted constipation, produced by obstruction in the large intestine, the ascending or descending colon becomes distended, the situation of the obstruction may be generally discovered by the peculiar dull sound given upon percussion; the dulness being below if the obstruction be in the ascending colon, and above if on the descending. In cases in which the constipation is insuperable, the colon should be opened, and its contents evacuated by establishing an artificial anus in the loins. This operation is performed by making an incision, about three inches in length, between the last rib and the ileum, and about two and a half inches from the spinous processes of the lumbar vertebræ: this incision is to cut through the skin and mass of lumbar muscles, so as to expose the quadratus lumborum muscle, which is next to be divided, when the internal layer of the fascia lumborum will be exposed, and that being cut through, the colon, uncovered by peritoneum, would present itself to view: the intestine may now be easily opened, when its contents will be evacuated.

Some surgeons have maintained that this operation is inadmissible, owing to the difficulty of its performance without injury to the peritoneum; but I am disposed to believe that this danger is much exaggerated, and that if the part of the intestine exposed be the exact seat of obstruction, and that the intestine is distended to its utmost, it may be easily opened without risk of wounding the peritoneum, as, in the natural condition, the posterior fifth of the descending colon, from the termination of the arch to the crest of the ileum, is naturally uncovered by peritoneum, and, when abnormally distended, a much larger surface is left exposed. My colleague, Mr. Hilton, has performed this operation upon subjects who have died of insuperable constipation, in consequence of obstruction of the lower portion of the colon, and found no difficulty whatever in opening the colon between the last rib and the ileum, even without experiencing any obstacle in avoiding the peritoneum. M. Amussat recommends a crucial incision, so as to secure sufficient room for a more complete inspection of the bowel; but such a precaution seems scarcely necessary, and, at all events, should not, I think, be resorted to unless it appears requisite as the operation advances. It has also been said that there is some difficulty in recognising the bowel even when it is really exposed; but I cannot understand how such a difficulty can occur; for in the space between the last rib and the ileum, and anterior to the quadratus lumborum muscle, nothing but colon can present itself to view, and it may be easily recognised by the band of longitudinal fibres which are exposed. Some caution is necessary in the division of the quadratus lumborum itself, which should be carefully dissected through almost fibre by fibre, to avoid the possibility of dividing the anterior layer of the fascia lumborum, which should not be cut through until it is perfectly exposed by the removal of the muscle or the fascia constituting the precise boundary to the cavity of the abdomen, so that it furnishes an infallible means of recognising the precise point to which the operation has advanced; and, upon laying it open, nothing but colon can be seen, unless, indeed, the kidney occupied the space, which could only be the result of disease in that viscus. M. Baudens considers that he has arrived at a certain mode of distinguishing the colon from the kidney when a doubt arises, his plan being the introduction of a very small trocar or canula, which, if penetrating the colon, would lead to the escape of gas, and the soiling of the instrument with fæces; while, if the kidney were punctured, blood, perhaps mixed with urine, would flow from the canula. . The treatment of the artificial anus is the same in this as in other cases in which it may be be formed.

As the obstruction in the colon usually results from malignant disease, the operation can only act as a palliative; but the prolongation of life even for a few months would be a sufficient boon to warrant its being undertaken. Abscesses in the loins may sometimes require to be opened in this region: they may be produced by disease of the spine, and then constitute what are termed lumbar abscess, or they may arise from the kidneys. I once saw Sir Astley Cooper open an abscess in the loins, and remove from it a urinary calculus, which, from the history of the case, had no doubt passed from the kidney or ureter by the process of ulceration, the stone acting as an extraneous body in the surrounding tissues.

The hypogastric region.—This is perhaps more frequently the subject of surgical operations than any other region of the abdomen: it contains the ileum, which intestine, owing to its slight attachment by means of the mesentery, as well as from the existence of the natural outlets through the parietes of this portion of the abdomen, is very subject to protrusion: it also contains the termination of the ileum, with its somewhat complicated apparatus in the right iliac region, and the termination of the sigmoid flexion of the colon in the rectum, on the left iliac region, in both which localities these viscera often become the seat of disease. The urinary bladder and part of the internal organs of generation occupy the pubic region, and these often require surgical operations for the relief of the diseases to which they are subject. The lesions which so frequently occur at the termination of the ileum in the cæcum, in consequence of the disorganization of the ilio-colic valve, often lead to an affection termed "ileus," which requires similar treatment to that described as necessary in protracted constipation from disease in other parts of the colon. This is, however, more dangerous, as the small intestines are implicated. The disease may be distinguished, from the circumstance of the pain being constantly referred to one spot in the right iliac fossa, where a fulness may generally be felt.

Although but little is known of the natural function of the vermiform process of the cæcum, it is proved beyond question that any alteration in its organization produces great disturbance throughout the whole length of the colon. The intrusion of foreign bodies,—its adhesion by any process of inflammation,—its protrusion from its natural cavity, so as to form a hernial tumor,—all produce very urgent symptoms, of which the immediate cause is, however, discovered with great difficulty, as the symptoms are all referrible to the altered action of the colon, in which disease from any other cause would produce a like effect.

In the left iliac fossa, a tumor of considerable size is sometimes formed by an accumulation of fæces in the sigmoid flexion of the colon. This accumulation is usually attended by pain, and by enlargement of the veins in the left lower extremity, in consequence of the pressure of the sigmoid flexure of the colon on the left iliac vein. In such cases, copious enemata are indicated, for the purpose of softening the indurated fæces, and castor oil may be prescribed as the best purgative for emptying this portion of the intestines.

Malignant disease often attacks the colon at the point of its termination in the rectum. This may produce so determined an obstruction to the passage of the ejesta, as to lead to the necessity for opening the colon as already described.

The inguinal canals situate in this region, and which contain the spermatic cord in the male, and the round ligament of the uterus in the female, are very liable to abnormal changes, which require some acumen on the part of the surgeon to ascertain their exact character. The most frequent of these changes consists in the swelling produced by the protrusion of an intestine; but a swelling may also occur here from the presence of a testicle not descended into the scrotum, from a varicose state of the spermatic veins, or from a hydrocele of the spermatic cord: each of these cases would require totally different treatment, and, therefore, it becomes highly necessary to diagnose them correctly. When the tumor is suspected to arise from the presence of a testicle in the inguinal canal, its absence from the scrotum would be strongly corroborative of the accuracy of the supposition, and further proof may be obtained by pressing the tumor, when, if a sensation be felt similar to that experienced in compressing a testicle in its normal situation, there can be but little doubt of the true character of the swelling. In young people the most anomalous symptoms sometimes arise in cases of non-descended testicle. A youth, the son of Colonel R., was brought to me suffering from symptoms similar to those in case of calculus passing along the ureter. I prescribed the warm-bath with calomel and opium, but without success. I then made an examination of his abdomen, and discovered the left testicle situated within the inguinal canal, close to the external abdominal ring. I at once perceived that this condition of the testicle was the probable cause of the constitutional irritation, and considered, that if I could contrive by any means to ensure its descent, I should be able to afford immediate relief to the patient. For this purpose I had an instrument constructed by Mr. Bigg by which I was enabled to keep the scrotum elongated, so as to produce a constant tension of the gubernaculum, and establish a tendency to draw the testicle downwards. At the same time I placed a weak truss on the inguinal canal above the testicle; and this produced a good effect in two ways, preventing the descent of the intestine into the inguinal canal, and also pressing the testicle downwards towards its normal situation: this plan of treatment proved, indeed, perfectly successful, and, in the course of a fortnight, the testicle had completely descended, and the patient was entirely relieved from the symptoms which had previously caused him so much distress. I have since had a similar case in Guy's Hospital, the result being equally successful. In that instance, however, I did not make use of any mechanical contrivance to keep the gubernaculum on the stretch, but drew and kept the scrotum down to the thigh by pieces of adhesive plaister only.

A varicose state of the veins of the spermatic cord within the inguinal canal produces many physical signs that closely resemble hernia: such, for example, as the facility with which the tumor seems to recede into the abdomen under pressure; its diminution in size when the patient is in the recumbent posture, and its propulsion on coughing and sneezing. The perfect absence, however, of any derangement of the bowels, would excite a doubt as to such being a hernial swelling, and the diagnosis may readily be determined by maintaining pressure on the internal ring. After the tumor has been reduced, if it be hernia, it cannot return, but, if varicocele, as the pressure prevents the return of blood, the tumor soon reappears, its size increasing according to the firmness of the pressure, and the length of time it is kept up. Hydrocele of the spermatic cord within the inguinal canal forms a tumor which may be very easily mistaken for an irreducible hernia. I have known surgeons of great experience to fall into this error; and, indeed, unless the tumor be transparent, it is only by negative indications that the two can be distinguished from each other; the absence of any functional derangement in the bowels, and want of continuity with the internal ring, (it being, indeed, perfectly circumscribed and isolated), form its principal distinctive characters. Before, however, any curative means be adopted, it would be a safe course to explore for fluid with a fine grooved needle: if it be proved to be hydrocele, it may be cured by introducing a seton of one thin thread of silk, or by that which I consider a safer plan, merely laying open the sac, evacuating the fluid, and applying the pressure of a slight truss, to prevent its accumulation.

In cases of wounds or aneurism the external iliac artery is tied in this region: it is also in the pubic portion of the hypogastric region that the incision is made for the removal of diseased ovaria—an operation which of late years has come much into vogue. Some surgeons recommend, indeed, that the incision should reach in the course of the linea alba nearly from the ensiform cartilage of the sternum to the pubes. I have once performed this operation, and, although no untoward circumstances occurred during the operation itself, the patient sunk in a few days, never having, indeed, rallied from the depressing influence apparently induced by laying open the epigastrium. I have always attributed the dangerous effects to the exposure of this region, as during the whole period of her suffering the patient always referred the sensation of pain and sinking to it.

"The minor operation," in which the diseased ovarium is exposed by making an opening of threee or four inches in length between the pubes and umbilicus, is in my opinion by far the more admissible. I have seen it performed twice, with complete success, by Dr. Frederick Bird, and have no doubt that, in well-chosen cases, it would often prove successful. As to the operation itself, it requires but little manual dexterity or anatomical knowledge, but in the preparation of the patient, and after treatment, the greatest judgment is requisite. The chief danger does not, however, appear to arise from peritonitis; for either the peritoneum has undergone such change from the effect of the disease, or the impression made by the operation on the vital powers is too severe to admit of the usual inflammatory action supervening; and in unsuccessful cases, the patient seems to sink from extreme prostration, rather than from increased arterial action. With respect to this operation, however, we are not yet in possession of sufficient data as to the result of those already performed, to be enabled to judge of the propriety of its adoption.

In the pubic region, the urinary bladder is sometimes punctured with a trocar, and it is in this locality also that the high operation for the stone is performed. These operations will, however, be descrioed, when I speak of the region of the perineum, and of the urinary and genital organs.

Original Communications.

A COLLECTION OF FACTS ILLUSTRATIVE OF THE
MORBID CONDITIONS OF THE PULMONARY ARTERY.
AS BEARING UPON THE TREATMENT OF CARDIAC AND PULMONARY DISEASES.

By Norman Chevers, M.D.
Assistant-Surgeon, Bengal Army.

[Continued from p. 278.]

OBSTRUCTION TO THE PULMONARY ARTERY CONSEQUENT UPON EXTERNAL COMPRESSION.

Like the aorta, the pulmonary artery and its branches are occasionally found passing through large malignant tumors without having the slightest appearance of having been injuriously compressed by the surrounding growth.[*] Still the calibre of this vessel is liable to be seriously encroached upon by various morbid growths, and accumulations in the neighbourhood of the heart—such as pericardial deposits, large fluid effusions into the thoracic cavities, aneurism of the aorta, &c. The following cases afford interesting examples of these rare forms of obstruction:—

An instance is recorded in the Dublin Journal for May, 1841, in which extensive and thoracic effusion, the result of double pleurisy suddenly supervening upon chronic bronchitis, produced so much compression of the heart as to render it probable that death had resulted from complete flattening of the right ventricle. For eighteen hours previously to the unfortunate patient's death he suffered from frightful dyspnœa. The state of the pulmonary valves is unfortunately not described.

Compression of the base of the right ventricle and origin of the pulmonary artery by an aneurism of the ascending aorta.—About eleven years since, I watched the case of a middle-aged man, who was admitted to Guy's Hospital, with a pulsating aneurismal swelling upon the left side of the sternum. He suffered from hæmoptysis and extreme dyspnœa, and died in about a week after his admission. Upon examination, a large aneurismal pouch was found arising from one of the sinuses of Morgagni, and pressing forwards the base of the ventricular septum in such a manner as to place it completely in contact with the outer wall of the right ventricle: in this way the orifice of the *pulmonary artery* had become nearly flattened. Anteriorly this was completely the case; the left pulmonary sygmoid valve had become adherent by a fibrinous clot to the most projecting part of the tumor. At the parts where the compression must have been greatest, and where the surfaces must have been placed completely in contact with each other, the endocardium was deeply reddened, and, in parts, coated with fibrinous coagula. The heart is preserved in the pathological collection at Guy's, (numbered 147825).

The two following interesting parallel instances have been recorded by Dr. Elliotson:—

Owen S., ætat. 39, had been ill five years. When admitted, he had ascites, anasarca of the legs, a quick and rapid pulse, dyspnœa and palpitation, but *could lie down*. The palpitation and dyspnœa had lasted a year. The jugulars and other veins of the neck were distended to a great degree. On applying the stethoscope to the right side of the heart, or upon the sternum, a whizzing sound *(bruit de soufflet)* was heard, and it was ascertained, by feeling the pulse, that this sound was synchronous with the contraction of the ventricles. The principal *post-mortem* appearances were as follow:—The pericardium was adherent to the heart, and contained some portions of cartilage: there was a cartilaginous body in the substance of the wall of the right ventricle, where the pulmonary artery leaves it, and the artery was contracted in size to that of the brachial, there, and for some inches beyond.

A man, ætat. 60, who had been out of health some months, suffered from orthopnœa, anasarca of the arms, thighs, and legs, considerably increased action of the carotids and radials, and distension of the veins of the neck, with tenderness of the epigastrium. A loud and distinct *bruit de soufflet* was heard at the upper part of the sternum, at the moment when the ventricles contracted, proving that the obstruction must be at the outlet of one of those cavities, while the situation in which the noise was heard, and the distension of the veins pointed out the right as the one implicated. The only material differences between these two cases were, the circumstance that in the former the patient could lie down, while in the latter he could not, and the increased action of the carotid and radial arteries in the latter. On examination, the pericardium was found adherent to the surface of the heart in every part; the heart itself was enlarged to twice its natural size, and its substance was very much softened, and so changed in texture as almost to have lost its fibrous appearance. A part of this change might be owing to the decomposed state of the body, but certainly not all of it. The walls of the cavities were thickened, but not in proportion to the increase in size of the whole heart; the cavities themselves, and especially those on the right side, being much dilated. At the origin of the *pulmonary artery*, a fibro-cartilaginous structure, as large as a small egg, was found almost surrounding the artery, which was so much diminished in calibre that it would scarcely admit the little finger; beyond, the artery retained its usual size. There was also found to be a large aneurism of the aorta, which had burst.*

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[*] Dr. Sims relates a case in which the right division of the artery passed through a malignant tumor, and was much dilated, but retained its texture. Medico-Chirurgical Transactions, vol. xviii. p. 290.

Obliteration of the right pulmonary branch by an aortic aneurism.—The collection at Fort Pitt contains a preparation taken from the body of a corporal, about 33, who died of phthisis pulmonalis, in which the right branch of the *pulmonary artery* is completely closed at its origin by the pressure of a small aneurism arising from the concavity of the aorta, near its base. The closure was permanent from adhesion. The inner coat of the pulmonary artery contiguous, had lost its natural smoothness. This disease of the vessels was never suspected during life, the symptoms being only those of ordinary phthisis†.

Congenital narrowness of the pulmonary artery.—Dr. Barlow has described a highly interesting class of cases of young patients who have suffered from birth from an imperfectly developed condition of the respiratory apparatus, the thorax being more or less narrow or deformed, the trachea small, and the lungs ill expanded, who, at or about the period of puberty, are liable to become the subjects of grave cardiac symptoms; and eventually to die from the effects of obstruction to the circulation. In such cases it is generally found that the left cavities of the heart and aorta are either normal in size or below the natural capacity.‡ The right cavities are more or less dilated and hypertrophied, while the pulmonary artery remains small, and, what is very remarkable, has occasionally been found by Dr. Barlow to be really below its usual standard capacity. This obtains so long as the vessel remains healthy.

I have myself observed a few instances in which the right ventricle had become hypertrophied in consequence of the long obstruction, and in which the pulmonary artery remained small, independently of any apparent organic fault in its texture;* but it is, undoubtedly, far more usual to find this vessel more or less dilated, in cases where the circulation through the lungs has been long and severely impeded.

The tissues of the pulmonary artery, being naturally far more extensible than are those of the aorta, probably do not undergo precisely the same changes of dilatation, &c., coincidently with the occurrence of hypertrophy of the right ventricle, as do the structures of the aorta under parallel circumstances. The right ventricle appears to be capable of becoming hypertrophied before the pulmonary artery has undergone any remarkable or proportionate dilatation; and this may be especially the case in those instances where (as Dr. Barlow argues) the vessel is small from originally faulty development. Should the patient's muscular system be weak (as usually happens in this class of instances), it is probable that the ventricle will also become dilated before a similar change occurs in the artery: the muscular tissue of the former depending more for its tone upon nervous influence than does the elastic fibrous structure of the other. The presence also of a freely acting safety valve on the right side of the heart, and a healthy condition of the abdominal vessels, will, at the commencement of these cases, have considerable influence in relieving the pulmonary artery; while, on the contrary, a close tricuspid, and obstructed abdominal circulation, would tend greatly to hasten its dilatation. It must also be borne in mind, that in cases of this description death is not generally to be ascribed to the mere obstruction produced by the imperfect development of the pulmonary apparatus, but that it is usually caused by the superaddition of a certain amount of inflammatory or other disease in the originally defective lungs, which hastens on the fatal result long before the heart and its appendages have undergone those changes which they would ultimately have presented had life been considerably prolonged.

It is therefore not to be considered that the instances in question by any means disprove the generally prevailing rule, that obstruction to the pulmonary circulation has uniformly a tendency to produce dilatation of the afferent vessel of the lungs. And it is of course almost unnecessary to add that they do not in the slightest degree prove that pulmonary obstruction can, under any circumstances, have a tendency to produce a diminution in the capacity of this artery.

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* MEDICAL GAZETTE, vol. x. p. 221.

† Third Fasciculus of Anatomical Drawings selected from the Collection of Morbid Anatomy in the Army Medical Museum at Chatham. Plate vi.

‡ In some cases the left auricle and ventricle are dilated, while the aorta remains small, although free from any traces of organic disease.

* This has not merely occurred in very young individuals; in the case of the middle-aged man, the state of whose lungs I have described in the chapter on pulmonary apoplexy, the orifice of the pulmonary artery was nearly of the ordinary capacity, although some of its branches were greatly obstructed by old coagula. The heart was hypertrophied, and the aorta somewhat dilated.

Dr. Barlow has also shewn that a condition of parts similar to that described in the above class of cases may result from the occurrence of adhesion of the pericardium at a period of life when the development of the thoracic organs is still incomplete.* I have also brought forward a series of instances which illustrate the fact, that complete adhesion of the pericardium, occurring in adult life, has a tendency to produce diminution in the size of the heart and its vessels in all cases where there is no valvular disease, and the pulmonary and systemic circulations remain tolerably free.†

All morbid anatomists are now acquainted with the fact, that in the majority of cases of pulmonary consumption the cavities of the heart are found considerably below the ordinary standard capacity; and that the pulmonary artery and aorta usually, to a greater or less degree, partake in this change.

Pathologists are indebted to Dr. P. M. Latham for an explanation of the remarkable and important principle upon which this adaptation is effected.‡ It is observable that in the larger proportion of cases of phthisis, even long after nearly the entire structure of both lungs has been rendered irrespirable by solid deposits and purulent excavations, there is usually, while the patient remains unexcited and at rest, an almost entire absence of severe dyspnœa. This often continues even up to the period of dissolution: the patient dying from hæmorrhage, exhaustion, cerebral complication, —or, in fact, from almost any other cause than mere suffocation. This is shewn to depend upon the very small quantity of blood which is propelled, at each systole of the contracted right ventricle, through the pulmonary vessels, as well as to the rapidity of its transit through the narrowed cavities of the heart. The colliquative sweats and diarrhœa, which are such frequent attendants of the later stages of this disease, are therefore not to be regarded either as processes which are wholly injurious to the system, or as altogether dangerous symptoms which it is absolutely necessary to repel by vigorous treatment: they must, on the contrary, be viewed as the principal means which nature adopts to relieve the heart and lungs from a large proportion of the circulating fluid—a relief which the latter organs require, not only in consequence of the great diminution of their aerating surfaces, but also on account of the impaired action of the bronchial exhalents which is usual in this disease.§

It is doubtless owing to a similar diminution in the bulk of the circulating fluid that the circulation through the lungs is usually so free in cases of malignant disease of those viscera. Large masses of softening cancerous deposit are occasionally found occupying very extensive portions of the pulmonary structure in the bodies of patients who have scarcely been at all subject to dyspnœa, and even in cases where no symptom has occurred to lead to the recognition of the disease during life. In such cases as these the heart and its vessels have usually been observed to have adapted themselves to the diminished volume of the blood.

Narrowing of branches of the pulmonary artery in the vicinity of phthisical cavities. —In extensive tubercular degeneration of the lung, even after softening and suppuration have commenced, it is often singular to observe branches of the pulmonary artery, of various diameters, passing through the apparently disorganised lung, their interiors remaining entirely free from the slightest discolouration or deposit, although the canals have evidently been in some degree encroached upon by the surrounding effused matters. In more advanced stages of disease, however, when phthisical excavations have become completely formed, complete obliteration of the arterial tracts, which are thus left in a state of isolation, generally occurs, while those portions of the closed arteries which intervene between the point of occlusion and the nearest pervious branch undergo a remarkable degree of contraction, which leaves them in the condition of very narrow conical cul-de-sacs. This latter change has been very accurately described by Dr. Ballie, who remarks, that when blood-vessels are traced into abscesses of the lungs, he has found them very much contracted just before they reach the abscess, so that the opening of their extremites has been closed up entirely. On such occasions it will require a probe to be pushed with a good deal of force, in order to open again their extremities. In these contracted vessels, he adds, the blood is coagulated as it is under similar circumstances in other parts of the body. This change of the blood-vessels he regarded as designed to prevent the occurrence of large hæmorrhages, which would certainly prove almost immediately fatal.

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* Guy's Hospital Reports, vol. v., New Series.

† Guy's Hospital Reports, vol. i., New Series.

‡ See Lectures on Diseases of the Heart, MED. GAZ., vol. iii.

§ It has been observed by one of our leading pathologists that he regards a small heart as a bad coincidence in the case of tuberculous disease, adding, that he would rather have a large heart than a small one in connexion with phthisis. —[Clinical Remarks on a case of Tabes Mesenterica, by Dr. C. J. B. Williams: MED. GAZ., vol. xviii., p. 1490.]—I cannot but venture to prefer the doctrine of Latham to that of this high authority. It will, I believe, be usually observed that in cases of phthisis where the heart is large the respiration has been proportionably difficult, the pulse comparatively slow, and the patients to a greater or less degree subject to that depression of spirits from which the rapidity of the circulation in phthisis usually renders the victims of this hopeless malady so providentially free. The condition of the phthisical heart cannot be regarded as one of atrophy: all its cavities are usually small and well contracted; and the muscular tissue of its walls is firm, and well adapted to maintain short and rapid propulsive movements.

My own observation has led me to believe, with Cruveilhier, that the obliterated trunks of pulmonary vessels much more frequently form the principal substance of the bands which traverse the cavities of many phthisical excavations than the statements of Laennec and Andral would lead us to suppose. While the excavations are of moderate size, the obliterated arteries are usually seen passing across the cavities, in the form of greyish cords, covered externally with a coating of pus, fibrine, and particles of tubercular matter, and presenting, on transverse section, a close grained coagulum, having the appearance of soddened glue, perfectly identified with their degenerated tissues, and completely occluding their canals. These obliterated vessels are easily broken across, their structures having lost their tenacity; and, as the cavities increase in size, the isolated portions appear to become removed by sloughing, leaving only rounded extremities, which form slight elevations on the sides of the vomicæ.

It appears that in the generality of chronic phthisical excavations, the portions of vessels which pass across the cavities become perfectly obliterated. It is in the last degree improbable that any artery which has long remained in this manner completely isolated should ever remain sufficiently pervious to become either the seat of aneurism or the source of hæmorrhage. So far as I have observed, or can learn, these accidents are only liable to occur in vessels which are situated upon the walls of cavities, and which are not completely isolated. Still, it is not improbable that, where the excavation is very rapidly formed, a considerable tract of artery may become detached before the process of obliteration has been completed, and may then either suffer perforation or be actually separated during a violent paroxysm of coughing, as is described to have been the case in a somewhat marvellous case described in the Ephemerides Nat. Cur.

[To be continued.]

APOTHECARIES'-HALL.

Names of gentlemen who passed their examination in the science and practice of medicine, and received certificates to practise, on Thursday, August 24, 1848:—William John Player, Swansea—William Richard Hilton, Whitehaven, Cumberland.

OBSERVATIONS ON THE

TREATMENT OF HEMORRHOIDAL TUMORS,

CONNECTED WITH RELAXATION OF THE MUCOUS MEMBRANE OF THE RECTUM.

By Henry Lee, Esq., F.R.C.S.

Assistant-Surgeon to King's College Hospital.

[Continued from page 245.]

In the application of nitric acid to hemorrhoidal tumors, the degree of irritation experienced will often depend upon the extent of surface involved in the operation. When, therefore, a considerable amount of the mucous membrane descends with the tumors, it is desirable to select certain portions of it, to which the application of the acid should be confined. The effect of the acid may be regulated either by applying very small quantities of it at a time, or by shielding the surrounding surface by a paste made of chalk and water.

Every portion of mucous membrane to which the acid extends should be as completely deprived of vitality as possible, since the degree of pain experienced will necessarily depend upon the remaining sensibility in the parts.

Unless these conditions are observed, the application of nitric acid, or of any other caustic, to the mucous membrane of the rectum, may prove as serious an operation as that for which it is intended as a substitute.

Case V.—Wm. Perry, æt. 33, was admitted into St. George's Hospital on the 1st of September, 1847. He had suffered much from the usual symptoms of piles for twelve years; and his health had become seriously impaired by repeated and copious loss of blood from the rectum. When he strained at stool, a cluster of piles presented themselves, which, together with a considerable portion of mucous membrane, formed a mass the size of half an orange. A fortnight after his admission (the bowels having been previously opened by some mild laxative medicine) the strong nitric acid was applied to the tumors, and allowed to extend over nearly the whole of the protruded parts. He experienced considerable pain at the time of the operation; and a few hours afterwards had a slight rigor. The night following he was kept awake by pain in the rectum, which he also experienced occasionally during the next day. On the third day his symptoms were relieved; but he still found that the tumors descended every time that he went to the water-closet, and caused him considerable inconvenience till they were returned to their natural situation.

On the 2d of October the application of nitric acid was repeated more carefully. On the 19th of the same month, his symptoms had entirely disappeared. There was now no descent of the bowel; he felt himself entirely free from pain; and the hemorrhage from the bowels had ceased. This patient was again seen on the 22d of February, 1848. He then stated that, from the time of leaving the hospital, he had continued well and free from pain, but that a few days previously he had again experienced a slight discharge of blood from the bowel.

I can have no hesitation in attributing the pain and irritation experienced in this case, after the application of the nitric acid, to the conditions above mentioned not having been regarded. Having witnessed this operation, now, in a considerable number of cases, I have never known similar inconveniences to arise when the acid has been confined to a small portion only of the mucous membrane, and applied so as completely to destroy its sensibility.

The following case will show what a comparatively trifling operation this may become under favourable circumstances:—

Case VI.—Captain H. was seen on the 6th of March, 1848. He had suffered from piles for several years, and had at different periods lost a large quantity of blood. Upon examination, finding two large internal hæmorrhoids, I applied the strong nitric acid, so as to completely destroy the mucous membrane covering them, taking care that the acid extended to no other part. This gentleman experienced only a slight uncomfortable feeling in the lower part of his abdomen during the operation, and this almost immediately subsided. I requested that he would lie upon the sofa for the remainder of the afternoon, but calling upon him again in the course of a few hours, I was surprised to find that he had gone out for his accustomed walk. The operation in no way interfered with the pursuit of his usual occupations.

The nitric acid in such cases should be the *strongest that can be procured:* that which is usually kept by chemists under the name of the strong nitric acid does not effectually destroy the surface to which it is applied; and when used it therefore produces more pain than the strongest acid, and cannot be so certainly relied upon to accomplish the intended purpose.

The most convenient way, perhaps, of applying nitric acid to hæmorrhoidal tumors, so as to insure the success of the operation, is to encircle the base of the tumors to be removed with any instrument which will at the same time hold them in their situation and make sufficient pressure to prevent the divided vessels from bleeding; any portions of the hæmorrhoidal tumors, or of the mucous membrane, may then be removed with a pair of curved scissors, and the cut surfaces immediately wiped dry and touched with the acid. If this is done before any bleeding has taken place the blood in the vessels will be coagulated, and the vessels permanently sealed. Care must be taken, however, in performing this operation that the pressure completely commands the hæmorrhage, for if any blood escapes from the surface it will become mixed with the acid, and prevent it from effectually acting upon the surface to which it is applied. The instrument which is best adapted for restraining the hæmorrhage under these cirumstances consists of two parallel curved plates of steel, with their internal edges slightly indented, so as to fit each other when they are brought together; these two plates are connected at each end by a small cross bar, to which a screw is adapted so as to produce the exact degree of pressure required. When the tumor to be removed projects sufficiently, a common Indian-rubber ring applied round its base will frequently answer every purpose.*

There is a considerable class of cases which generally pass under the common name of "piles," but which differ in their mode of origin from those which have been before considered. In the cases to which I now allude the inconvenience experienced does not, in the first instance, arise from the existence of hæmorrhoidal tumors, nor from any inflammatory affection of the parts, but from portions of the relaxed mucous membrane becoming inverted and griped by the muscular fibres situated at the lower part of the rectum. The following case is mentioned by Mr. Abernethy:—

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* If an Indian-rubber ring is used it should be cut off (not pulled off over the tumor) when the operation is concluded.

CASE VII.—A medical man having dined out was seized with some disturbance in his bowels, which caused him to get up during the night. He returned to bed, but could not rest. He experienced great pain and irritation about the pelvis, and was unable to attend to his practice the next day. When Mr. Abernethy saw him he had no less than thirty or forty scarifications upon his nates, from cupping-glasses which had been applied in the hope of procuring some relief. Mr. Abernethy, suspecting that a small plait of bowel had descended, and was griped by the sphincter muscle of the bowel, examined the parts, and found a small protrusion: this he returned to its natural position, and immediately relieved the patient.

The insensibility of the mucous membrane in this complaint frequently causes the symptoms to be referred to the neighbouring parts, and therefore it is, I believe, that this disease often exists without being recognised. A patient will often complain of a dull pain over the sacrum, or a heaving aching pain in the perineum, which neither he nor his surgeon can satisfactorily account for. In the course of time some other symptom presents itself, which draws attention to the rectum, and the usual remedies for piles are administered: laxatives, mercury in different forms, and sometimes local depletion, are had recourse to, without, of course, any ultimate benefit as long as the disease depends upon a mechanical cause.

Permanent relief in such cases can only be sought by means of such remedies as tend to brace the mucous membrane of the bowel. The simplest as well as the most efficacious method of accomplishing this is to remove one or two small longitudinal folds of the mucous membrane;—when any portion of the lining of the bowel can be forced down this may be easily accomplished, in the same way as recommended for the removal of hæmorrhoidal tumors It is not necessary to remove the precise portion of membrane which has become inverted; the destruction of any portion will, after the wound is healed, have the effect of bracing the remainder. In this, as in the operation for hæmorrhoidal tumors, it is the process of cicatrization which cures the disease.

When an operation cannot be had recourse to, other means may be tried in order to give tone to the bowel: among the first of these may be mentioned frequent ablution with cold water. Different kinds of ointment may also be used for the same purpose. The following I have known attended with considerable benefit:—℞ Pulv. Hydr. Nitr. Oxyd. ʒiij.; Pulv. Capsici, gr. v.; Ung. Cetacei, ℥j. M.

But in cases where the mucous membrane of the rectum has acquired an habitual disposition to "bag," it frequently happens that no local application will afford permanent relief. The loose folds of membrane (which may or may not be connected with hæmorrhoidal tumors) will descend again and again, and sometimes keep up irritation in the part for several years. An effectual remedy may sometimes be found under such circumstances by affording local support to the relaxed membrane. The disease being of a mechanical nature may be relieved by mechanical means. A variety of instruments have at different times been invented in order to accomplish this object. Those of the simplest construction have consisted of a stem three quarters of an inch in length, with a cross-bar at one extremity to prevent the instrument from passing into the rectum, and a bulb at the opposite end to retain it in its position when introduced. In the advanced periods of the disease, where the muscular rings at the lower part of the bowel have become inverted from above downwards, and some of them protruded together with the relaxed membrane, the instruments above mentioned have occasionally been of essential service. But in the earlier stages of this complaint they have frequently been attended with more irritation than the disease which they were intended to alleviate.

In the former part of this paper it has been stated that the lower extremity of the bowel in its healthy condition is surrounded by muscular fibres for an inch and a half or two inches; and unless the stem of the instrument is made of sufficient length to allow the bulb to rest *above* the fibres of the *levator ani*, they will be continually acting upon it and pressing it against the posterior part of the prostate gland. The instrument should, therefore, be *at least* two inches and a half in length, and should have a gentle curve backwards, so as to adapt it to the shape of the rectum.* An instrument of this kind, when properly adapted, will not unfrequently be the means of keeping the relaxed membrane in its place, and of preventing all the inconveniences arising from its descent.

Case VIII.—A chemist in a country town had been subject for twenty years to a relaxed condition of the mucous membrane of the bowel, and had suffered at different times much pain and inconvenience in consequence. Having no difficulty in procuring medicines, and having naturally great faith in their efficacy, he had tried every remedy that he could think of;—he had used purgatives, mercurials, ointments of various kinds, leeches, &c.; and occasionally not without some apparent temporary advantage. Each year, however, he underwent the same suffering and inconvenience, and submitted to much the same routine method of treatment. In the year 1839, having seen this patient several times, and finding nothing like inflammation about the rectum, I at length suggested that he should wear an instrument such as I have above described, to keep the relaxed mucous membrane in its natural situation. The symptoms from which this patient had so long suffered were now immediately relieved. He has worn the instrument up to the present time, and has had no farther occasion for the medicines which he was formerly in the habit of using.

Case IX.—Mr. C. had suffered from relaxation of the mucous membrane of the rectum for five or six years. After walking he found that he experienced a very disagreeable sensation about the pelvis, accompanied by a slight protrusion from the bowel, and that if he allowed the protrusion to remain, some inflammation of the parts followed. This gentleman was treated in the same way as the patient in the last case mentioned. At the expiration of a week he informed me that he had felt none of his former inconvenience since he had worn the instrument.

Such instances might easily be multiplied, but as they all more or less resemble each other in their history and result, any farther details would be unnecessary. They almost always present themselves in languid constitutions, where there is little or no tendency to inflammatory action, and should be carefully distinguished from cases of piles occurring in plethoric subjects, from which they differ no less in their constitutional mode of origin than in their method of treatment.

13, Dover Street, Aug. 1848.

ON THE

BLOOD-VESSELS OF THE NERVES OF THE HEART.

By Joseph Swan, F.R.C.S. &c.

The superficial blood-vessels placed just underneath the pericardium, and the interspersed fat, have not been noticed, especially with respect to their very interesting arrangement in relation to the nerves.

Many years ago, I injected with quicksilver numerous transparent vessels running in lines on the surface of the heart of a calf a few days old; and lately I have examined the nerves of the heart of the ox, which weighed rather more than five pounds and a half, and as the auricles were quite open, it was drained of nearly all its blood. On the surface the numerous nerves were plainly seen like white lines as far as the fat was absent; on the surface of these white lines there was a transparent fainter line, which I believed to be a vessel, but from its emptiness I could not well determine its nature: on removing the pericardium and exposing some of those white lines, I found them as flat as the retina; but on tracing them upwards they became less broad, and appeared much smaller, especially near their connections with the trunk or plexus from which they proceeded. On tracing one of these lines upwards from the apex, I did not find it a single chord; but when it advanced more to the base of the heart, it divided and sent one of its portions deep, some part of which appeared to communicate with a deep artery and another part to rise to the surface amongst the fat, which, from the ultimate transparency and situation, I believed to be composed either of veins or absorbents. As I felt dissatisfied about the nature of the white lines on the preceding heart, I procured another as large, but had a portion of each lung left attached to it, by which means the blood was kept in the vessels: on examining the surface I saw the coronary arteries and veins, and the white lines crossing them obliquely, as described by Scarpa; but they were accompanied by vessels of the size of thick hairs, filled with blood, one on each side; although these appeared as veins, I believe there is also an artery and absorbent. The whole surface of the heart was covered with similar vessels filled with blood.

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* Instruments of this kind are kept by Messrs. rigny and Co., St. James's Street.

The trunks of the cardiac nerves of the ox are very small in proportion to the weight of the parts they supply; their branches also appear remarkably small before they are joined by their respective arteries, and, in fact, their continuations in the white lines on the surface of the heart, do not contain near the quantity of nervous matter represented by some anatomists.

The arteries of the nerves are of large size in proportion to the quantity of nervous matter the nerves contain. Some branches of the nerves travel a considerable distance obliquely before they accompany or embrace an artery; previously, some of these nerves have not any visible artery. In some instances, a larger nerve joins a proportionate artery, and both divide equally, being continued as the separate white lines or nerves on the suface of the heart. The artery of a nerve, in descending, forms some transverse connections with that of contiguous ones, and with several subjacent arteries. I have not succeeded in filling with injection the arteries throughout the nerves; nevertheless, it may be fairly concluded that the arteries are continued to the termination of the nerves, as vessels can be discovered on them for some days, especially after the heart has been immersed in water; and as the lateral veins can be distinctly traced, filled with blood, to the end of every nerve on the surface of the heart; and they are purposely arranged at the side of the nerve for returning its blood.

The lateral vessels on each side of the nerve are the veins, which have numerous transverse branches for communicating with those of the adjoining nerves. They empty themselves into large venous trunks at different places. I have injected several of these lateral vessels, and their transverse branches, with quicksilver. There is some difficulty in injecting them as well as the arteries, as all the muscular branches require to be filled before the injection passes freely into them.

In the moist state the artery may continue distinctly visible for some days, whilst the veins become empty and disappear. In the dried state, on the contrary, the arteries generally disappear, although in some instances a central mark may be observed; but the veins remain apparent from the contained blood, and form, as it were, a distinct skeleton of the nerve.

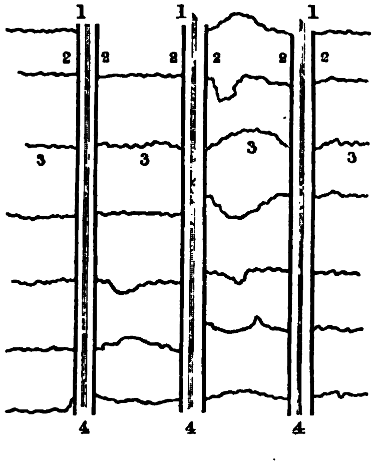
In the moist state the empty veins appear as part of the nerve; and their transverse branches, by joining together the adjacent nerves, may be easily mistaken for nervous connections or communications.

As the artery and veins form part of the bulk of the nerve, they may add more or less to its size, according to the nature of the fluid in which the organ is preserved; also according to the manner in which they are observed: so that they may appear larger by imbibition whilst contained in the fluid, and smaller by their emptiness when exposed to the air. As putrefaction has advanced the nerves have appeared smaller; whilst marks, as of carbonaceous matter, have been found about them, and were probably derived from the veins.

The uses of these vessels are for supplying the nerves with blood, and allowing an easy return of it during the action of the heart. The uses of the other parts of the superficial plexus placed just underneath the pericardium, are for supplying the fat, the pericardium and the secretions.

There is an especial analogy of arrangement, and not improbably of some functional power, between the ciliary nerves and arteries, independently of the retina, and those of the heart. Both are affected in a somewhat similar manner in the passions: from sympathy with other organs, and from a deficiency of blood. The small arteries for the nerves may be influenced momentarily with the nerves from mental emotion or bodily disorder: the vital stimulus their blood affords may be thus withheld from the nerves, and fainting, or instant death, be produced, especially when the heart has been impoverished by the diminution of the calibre or activity of the coronary arteries, through the ossification or thickening of their coats.

Plan of the Vessels of the Nerves of the Heart.



1, 1, 1. Artery running down the nerve.

2, 2, 2, 2, 2. Vein placed on each side of the nerve.

3, 3, 3, 3. Transverse veins forming communications between the lateral veins of adjoining nerves.

4, 4, 4. Cardiac nerves.

DESCRIPTION OF A

PIECE OF MECHANISM,

ON THE

SUPPOSED PRINCIPLE OF MUSCULAR ACTION.

Read, and Model exhibited, before the Medico-Chirurgical Society, Aberdeen,
July 6, 1848.

By W. Fraser, Esq., M.R.C.S.E.

Having several years ago had an opportunity of seeing a number of electro-motive machines of various constructions, I was much struck by observing the extreme weakness of the power rendered available for practical purposes by the different mechanical arrangements employed, compared with the tremendous force actually exerted, under certain circumstances, by the moving power made use of. An electro-magnet, which would, within its proper sphere of power, attract to itself, and retain suspended, a weight of many tons, could not be made by any of the arrangements I saw employed, to perform the twentieth part of the labour of one horse.

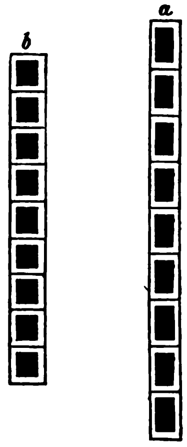
I shall not occupy your time by describing what those arrangements were, as most of you have seen them as well as myself, but come at once to the description of one upon an entirely new principle, which I have carried into effect with the happiest result, and of which the idea was suggested by the mode in which the muscular force appears to be exerted in that microcosm or little world,—our own body, the proper study of which I believe to be capable of affording the key to many hitherto unsolved problems in various departments of science.

It has for some time been a current belief in physiology, that the contraction of muscles is produced by the mutual attraction of minute cells or globules, arranged in parallel lines, of which the ultimate fibrils of the muscular tissue consist. The stimulus that excites this attraction, is the vital electricity, or the nervous or bio-galvanic current, transmitted by the nerves, and brought to bear upon the muscular globules by means of the ultimate nervous filaments, which interlace among them, and form a network of anastomoses, so as to complete the circle or current of nervous influence, of which the fountain, or, at all events, the prime-motor, is the brain or spinal marrow. The aggregate of these minute movements gives the extent of contraction of the entire muscle; the combined force of these molecular attractions, its full power or strength.

The following extracts and figures from Dr. Carpenter's "Manual of Physiology," will place the subject more clearly before us:—

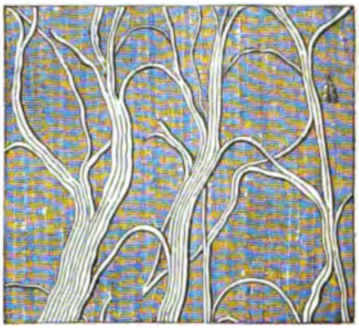
At p. 200, he says, "When the fibrillæ are separately examined under a high magnifying power, they are seen to present a cylindrical or slightly beaded form, and to be made up of a linear aggregation of distinct cells. We observe the same alternation of light and dark spaces as when the fibrillæ are united into fibres or into small bundles; but it may be distinctly seen, that each light space is divided by a transverse line, and that there is a pellucid border at the *sides* of the dark spaces as well as between their contiguous extremities.

"This pellucid border seems to be the cell-wall: the dark space enclosed by it (which is usually bright in the centre), being the cavity of the cell, which is usually filled with a highly refracting substance. When the fibril is in a state of relaxation as seen at *a*, the diameter of the cells is greatest in the longitudinal direction; but when it is contracted, the fibril increases in diameter as it diminishes in length,—so that the transverse diameter of each cell becomes equal to the longitudinal diameter as seen at *b*, or even exceeds it.



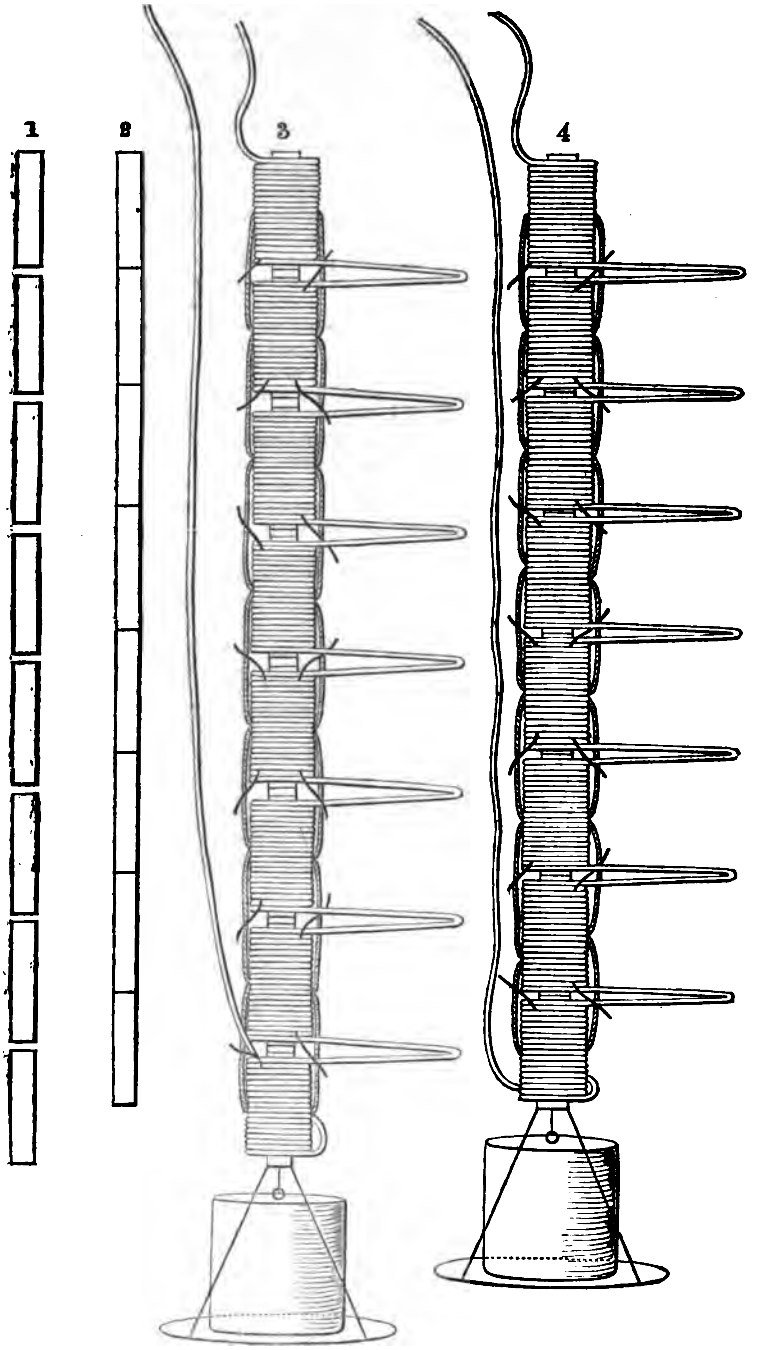
"The diameter of the ultimate fibrillæ will of course be subject to variations in accordance with the contracted or relaxed condition; but it seems to be otherwise tolerably uniform in different animals, being for the most part about 1-10,000th of an inch. The average distance of the striæ, too, is nearly uniform —about 1-10,000th of an inch in different animals, though considerable variations present themselves in every individual, and in different parts of the same muscle."

On the subject of the arrangement of the nerves and tendons in connection with muscles, the same authority says, p. 203, "The muscles of animal life are, of all animal tissues except the skin, the most copiously supplied with nerves. These, like the blood-vessels, lie on the outside of the myolemma of each fibre, and their influence must consequently be exerted through it. The arrangement of these nerves is shewn in the annexed figure. Their ultimate fibres or tubes cannot be said to terminate anywhere in the muscular substance; for, after issuing from the trunks, they form a series of loops, which either return to the same trunk or join an adjacent one. The occasional appearance of the termination of a nervous fibril is caused by its dipping down between the muscular fibres, to pass towards another stratum.



"Every muscular fibre, of the striated kind at least, is attached at its extremities to fibrous tissue, through the medium of which it exerts its contractile power on the bone or other substance which it is destined to move. Thus the whole muscle is penetrated by minute fasciculi of tendinous fibres, and these collect at its extremities into a tendon."

Of the anatomical arrangement now



described, the electro-motive machine I have constructed is as close an imitation as possible: it consists of a number of electro-magnets opposed endwise to one another, arranged in parallel lines, and connected together by fastenings in such a way that, when made to act simultaneously, their united force can be brought to bear upon one point.

The annexed figures will give an idea of the apparatus both in a state of repose and of action, or, to speak analogically, in the opposite states of relaxation and contraction.

Fig. 1 represents a series of eight rectangular prisms of soft iron, one and one-eighth of an inch long, by a quarter of an inch square, placed endwise, at the distance of one-twelfth of an inch from one another. Fig. 2 shews the same in close contact. Figs. 3 and 4 represent the prisms in the same relative position, but armed with a continuous covered copper wire, and connected together in such a manner as to admit of free motion within a limited extent. Each prism has covered wire, about 1-20th of an inch thick, wrapped round it closely and regularly, in three layers, and, before being carried to the next prism or magnet, the wire is extended out for about an inch and a half at right angles to the prism, and bent back again at an acute angle, by which means the resistance it offers to the motion of the magnets is almost entirely overcome.

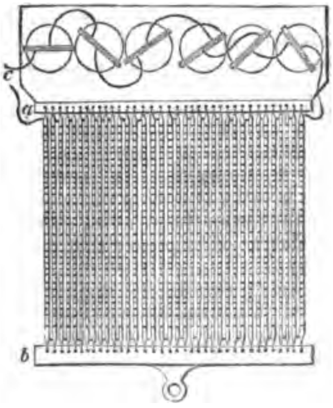
The prisms or magnets, with their opposite poles opposed to each other, are connected together by ligaments of catgut, the length of which can be so graduated, by twisting them by means of a small pin (which can be fixed by having its end inserted among the wire), that any distance that may be necessary can be assigned as the limit of motion to the magnets. It is proper to mention that the prisms are all bound together by two bands of vulcanized Indian rubber, in close contact with their opposite sides, and sufficiently on the stretch to overcome entirely the weight with which, when hanging perpendicularly, one part of the apparatus would bear upon the other.

The advantage of the arrangement now described is, that as the same current of galvanism is equally efficient in rendering many prisms magnetic as one, and as the motions produced by the magnetic influence are, by the way in which the prisms are in the apparatus connected together, communicated from the one to the other, and all accumulated or brought to bear at the end of the series, the amount of power gained is just the attractive power of one prism multiplied by the number in the series, deducting, of course, the resistance to be overcome by moving the additional number of magnets.*

Supposing one electro-magnet to be capable of raising three pounds one-twelfth of an inch, by combining 96 of them into one chain or series, in the way shewn in the model, there would be attained a power of raising three pounds a distance of $\frac{96}{12}$ of an inch, or eight inches; but allowing the additional magnets and their appendages to weigh one pound, and to be provided with no counterbalancing arrangement, then it is evident that the actual power attained would be only that of raising two pounds a height of eight inches. But, by combining 100 such columns, each containing 96 magnets, there would be attained a power of raising 200 pounds eight inches, or 100 pounds sixteen inches, or fifty pounds thirty-two inches, &c. according to the manner in which the combination was made.

Figures 5 and 6 shew how the chains

FIG. 5.



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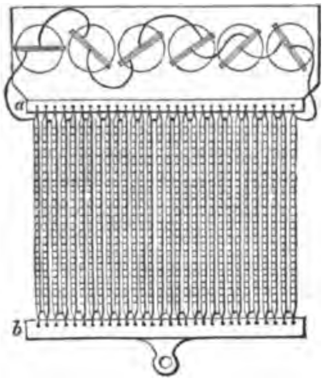
* The apparatus above described, which weighs five and a half ounces, with the aid of a moderate battery lifts a pound and a half a distance of nearly half an inch. Its action is almost instantaneous; and the shock with which it becomes rigid or relaxed, as the stimulus is applied or withdrawn, reminds one very forcibly of the spasmodic action of a muscle.

FIG. 6.



of magnets might be combined into a compound machine: one end of them being attached to the fixed beam *a*, near which the battery (in this instance a Smee's of six jars) is placed, their other extremities being fixed to the moveable beam *b*, from which any motion required could be easily taken. In fig. 5 the magnets are in a relaxed state, their connection with the battery being broken; while in fig. 6 they are in a state of contraction, the circuit of wire which connects them with the battery being complete.

By combining a number of such frames together, all connected by the same wire, and by augmenting the strength of the battery, any degree of power might be obtained, and, as in the steam-engine, the apparatus might be easily made self-governing in its action, by having a small cup of mercury with which one of the wires was connected, placed, say at *c*, fig. 5: the other end of the wire could be made alternately to dip into it and emerge from it, by means of a pendulum, so as to break and restore the connection, and thus keep the machine going with any degree of frequency that might be required.

Various expedients might be employed to neutralize or counterbalance the weight of the apparatus, if the power to be thus gained were thought a sufficient object. Thus, the magnets, supposing them to hang perpendicularly, might be articulated together by elastic ligaments (as in the model on the table) strong enough to overcome their weight, and no more; or they might, if placed horizontally, be provided with small wheels, and made to move in a sort of railway.

Upon the whole, it is evident that the power of such an apparatus would depend upon the perfection of its mechanism, and upon the fidelity with which it could be made to imitate the model which Almighty Wisdom has presented to us in the muscular structure and action. And, as the force of the attraction of electro-magnets increases prodigiously as their distance diminishes, (inversely as the square of the distance?) it follows that the smaller and more numerous the component magnets of the machine could be made, the greater would be the power attained. But in this respect, it is not to be expected that human ingenuity could ever be able to reach, by many hundred, I might say thousand, degrees, the minuteness of the muscular tissue. Yet even if the motive power attained were only a five-hundredth part of that which muscle *can be made to exert*, in proportion to the weight of the apparatus, this would be a very great advance upon the results that have hitherto been arrived at in this department.

Though, undoubtedly, it will be long before electricity be brought to supersede, or even to compete with, steam as a source of mechanical power, yet such a result need not be looked upon as chimerical, after the extraordinary properties it has been discovered to be possessed of, and the wonders we have seen effected by it, within the last few years.

Another necessary step towards this consummation, besides the perfecting of the mechanical arrangement, would be the discovery of a cheap source of galvanism; one whose price would not exceed that of the fuel employed in the production of steam. But that the very same source from which steam is obtained may be made available for the generation of electricity, is proved by recent experiments; though whether in a form suitable as a source of electro-motive power, yet remains to be ascertained.

MEDICAL GAZETTE.

FRIDAY, SEPTEMBER 1, 1848.

A TRIAL which has recently taken place at Chelmsford has brought to light a secret system of murder by poison which rivals that of the Thugs in India, and which we fear is much more widely spread over England than the public are inclined to believe. We know of no better name to give to this form of Thuggee than that of Burial-club murder; and it is with regret we must acknowledge that our legislators are either unwilling or unable to adopt measures for the prevention of this horrible crime. It is the boast of our laws that human life is more valuable in England than in any other civilized state; and we admit that this statement is true, so far as open attempts at assassination are concerned. These laws, however, are not only inadequate to suppress murder by poison, but in various ways they actually aid its secret and successful perpetration. Thus, in the first place, no check is placed on the sale of arsenic: any country grocer is allowed to sell it, and any child to buy it. So that the common pretence is set forth by the purchaser, that he or she is desirous of destroying a few rats or mice, this deadly instrument of death is at all times, and in all places, to be obtained at a very cheap rate. When the purpose is answered, and the unfortunate individual has been sent quietly out of the world by a sudden attack of "bowel complaint," the defective state of the Registration Act supplies a means of lawfully concealing the crime. A plausible story, accompanied by the statement of a person present at the death, will generally ensure registration of the cause under the head of cholera or summer diarrhœa! Much care is taken to avoid any inquiries on the part of the coroner or his officers, and the crime is concealed by the grave. Not content with supplying the means of murder and a legal method of silencing the inquiries of gossiping neighbours, the law, by the toleration of burial-clubs, actually supplies a ready and sufficient *motive*. Our readers must be fully aware that within the last few years we have had in various parts of England numerous proofs of the perpetration of crimes, the existence of which could hardly have been credited. Parents have poisoned their children, and children their aged parents, for the sake of ridding themselves of an incumbrance, and of procuring a few pounds by their deaths under the name of burial-money!

The case of the woman *May*, lately tried and executed at Chelmsford, is a fair type of this species of crime, carried to its maximum of cruelty and atrocity, and concealed by a degree of cunning which, but for the avaricious desire of clutching the price of blood before the body of her murdered brother was barely cold, would have completely succeeded in preventing all inquiry. Having entered her name in a Burial-club, and made the deceased her *nominee*, with a statement that he was a very healthy man, and much younger than he really was, she administered to him, about a month afterwards, a dose of arsenic, which she had procured on the usual plea that her cottage was very much infested with rats. The poison had its usual effects: the death was entered by the registrar under the questionable designation of "decline," and the man was buried. In consequence of her having claimed the death-money somewhat early, and her accounts respecting the illness of the deceased having varied, the body was exhumed three weeks after burial; and it was then proved that the deceased had died from the effects of arsenic. Circumstantial evidence brought the crime clearly home to the prisoner, and led to her conviction. In the course of this inquiry it was rendered highly probable that, some years previously, she had poisoned a former husband and many of her children! The sum to which she was entitled under the Burial-club rules was about *nine pounds*. Her counsel, in his defence, very ingeniously contended that the smallness of the sum could not be taken as a sufficient motive! Unfortunately, however, experience is very much against this standard of innocence. A much smaller sum has been known to tempt criminals to the perpetration of murder; and this leads us to consider whether these country death-clubs should not be either entirely suppressed, or placed under very strict rules, in order to prevent them from becoming actual incentives to crime.

We have now before us the "Rules and Regulations of the New Society, for rendering mutual assistance in cases of mortality, held at the Privateer Inn, Harwich." This was the club selected by Mrs. May, because being rather remote from the village where she resided, it might prevent any strict inquiries being made respecting her nominee, or a suspicion of the plans which she had then in contemplation respecting him. The deceased appears to have been marked out as a sheep is by a butcher, and his value as a pecuniary investment accurately calculated. It requires no great amount of capital to become a member of one of these clubs for the better encouragement of secret poisoning. Rule I. runs as follows :—

"Every person becoming a Member of this Society, shall, at the time of entrance, pay the sum of *one shilling*, for the purpose of purchasing books, &c., for the use of the society, and threepence for the rules and regulations, and appoint a nominee."

In addition to this shilling-investment, the moderate sum of fourpence per quarter is paid; and at the death of any one member or nominee, there is an additional charge of sixpence. The extra sum thus collected, forms the premium to be paid within three days of the death of either member or nominee. On the whole, it will be perceived that, excluding the risk of a conviction for murder, this is really a cheap investment, especially when it is known that the money is only nominally for the death: it may be expended in any way that the member pleases! To keep up, however, some show of consistency, the club requires that whatever may be the amount collected, the deceased must be buried decently. In the case to which we have alluded, the criminal had so laid her plans as to obtain the whole premium as profit; for it appears that she had lost no time in causing her brother to be buried at the expense of the parish. Thus, then, in a club of this kind, there is, for a few shillings, a chance of getting nine or ten pounds—the cost of the arsenic required to create a claim, being too small to be taken into consideration. These clubs for affording members assistance in cases of mortality, whether from poison or otherwise, are, we believe, very numerous in the provinces; and, although it is obvious from their regulations that they give to one person a direct interest in the death of another, they appear to multiply without the slightest check or control. As in the Derby or other sweeps, their head-quarters are at public-houses, and anybody is at liberty to make a small investment, and speculate on the death of a neighbour. We must confess our surprise, that with the revelations of the secret murders by poison, which have had their origin in these low associations, the Government has not interfered; but, as with the sale of arsenic, the figure of mortality from the prevalence of these clubs, has probably not yet become sufficiently high. It will require a greater accumulation of these atrocities to induce our legislators to interfere with that liberty which appears to be the exclusive privilege of a Briton—namely, of poisoning himself or his neighbour, at the cheapest possible rate, and without let or hindrance.

If we wish to extirpate this species of Thuggism in the provinces, these Death-clubs must be immediately looked to. There is one provision in their rules well calculated to encourage murder. The name of a person may be entered as a nominee by a member, while the said nominee is kept in entire ignorance of the arrangement. Thus it is not necessary to inform him that the sooner he dies, the sooner will the member be entitled to a respectable premium to provide him with a coffin, while the difference will go into the said member's pocket! In the Chelmsford case, the unfortunate deceased was kept in complete ignorance that two or three shillings had been paid upon his life, or he might have removed from a locality where such a dangerous interest in his death had been created without his knowledge or consent. The person whom it is intended to poison, has, therefore, no reason to suspect that he is a marked man, and that his murderer is only waiting for a convenient opportunity to remove him without exciting the remarks of neighbours. Such a rule as this is obviously a direct encouragement to murder. If these death-clubs be not wholly suppressed as dangerous to society, there should be at least a strict regulation, that the nominee must, in all cases, be a party to the contract, and be made fully aware that some person, who might have no great affection for him during life, was very desirous of making a little profit out of him at his death. This would be only starting fairly, so that the two might know the interest which each would have in the other's death. As it is, the poisoning is all on one side: the mortality club gives the *member* fair encouragement to get rid of the *nominee* in a quiet way. We believe that the records of our criminal courts would enable us to make out a long list of such cases.

As to the *sale of arsenic*, we think that, without interfering to an inconvenient extent with the liberty of the subject, it would be a wise rule not to allow it to be sold except under the signature of a licensed medical practitioner. If wanted for a lawful purpose, the signature of a medical man would never be withheld. It is true, this would not guard against forgery; but most of those who wanted arsenic for unlawful purposes, would not easily succeed in forging a name; and if they required another to aid them in this, it would be equal to declaring their criminal intention. Certificates of this kind might be made available only for the day on which they are signed, and within a certain district. This plan would not, of course, entirely suppress the sale of arsenic, but it would have the effect of checking it; and we are certain that it would annually cut off from some hundreds of criminals the means of carrying out their diabolical intentions. It would have the effect, too, of supplying that evidence which is now so frequently wanting in criminal cases, namely, of the purchase of poison. These are surely advantages sufficient to outweigh the slight inconvenience to which some glass-blowers, shot-makers, and farmers, would be subjected in procuring a medical order for arsenic. The druggist or grocer who dispensed the poison might always retain the document as evidence; and this would operate much more powerfully in arresting the arm of the murderer, than the present loose practice of requiring the attendance of a witness.

With respect to the *registration of deaths*, more care is demanded. No deaths should be entered except upon the certificates of licensed medical practitioners. No cause of death should be taken from the statement of non-medical persons without some inquiry among the neighbours. Unless these precautions are observed, the Registration Act furnishes a ready method of concealing crimes; for the fact of burial, under a registrar's certificate, might be taken as sufficient, in many cases, to silence inquiry. Judging from the exhumations which so frequently take place many months after interment, and from the discovery of arsenic in the exhumed bodies, there is great reason to believe that hundreds are yearly carried out of the world by poison, whose deaths have swelled the lists of cholera, diarrhœa, &c.! Some of the Eastern Counties, especially that of Essex, have acquired a fatal notoriety in this respect; but we do not believe that the crime of secret poisoning is more common there than in other agricultural districts where access to arsenic is just as easy. The apparent frequency of murder by poison in Essex, is, we believe, due to the fact, that the coroners and magistrates of that county exert themselves to the utmost in endeavouring to suppress this detestable crime, and they spare no efforts to bring the criminals to justice. We could name a county, not far distant from the metropolis, where an entirely different course is pursued. Cases of poisoning in that county are seldom heard of. Is it that they are so much less frequent than elsewhere, or that, for the sake of avoiding expense, the investigations are slurred over, and the deaths by poison are entered in the registration-books as cholera or diarrhœa? From some facts which have come to our knowledge, we are inclined to adopt the latter conclusion. These facts demand the earnest and immediate attention of Government.

Reviews.

Travels in Siberia; including Excursions Northwards down the Obi to the Polar Circle, and Southwards to the Chinese Frontier. By Adolph Erman. Translated from the German, by W. D. Cooley. 2 vols. 8vo. pp. 495 536. London: Longmans, 1848.

From the title it would appear that a notice of this work was hardly adapted to the pages of a medical periodical, yet when we state that the author is one of the Humboldt school, able and ready to bring scientific knowledge to bear upon topographical observations, it may be inferred that in the volumes before us we have not an ordinary book of travels. The name of M. Erman has been long known to men of science in this country. In 1844 he received one of the medals of our Royal Geographical Society, and his remarkable discoveries connected with the frozen soil of Siberia, have deservedly won for him a European reputation. As we have just stated, this is no ordinary book of travels: it is a most interesting philosophical survey of the coldest quarter of the globe. The botanist, the mineralogist, the geologist, the chemist, and the ethnologist, will here find a record of valuable facts in their respective sciences, collected by one whose mind was well able to perceive their reciprocal relations, and to arrange them in a form which would be most acceptable to educated men of all professions. In describing the gold and platinum mines of the Uralian chain, or in calculating the muscular strength of an Ostyak or Samoyede by the initial velocity imparted to an arrow, the author is equally at home; and in no part of the work do we discover that admixture of pseudo-science or pedantry which damages the works of some other travellers, who have been desirous of passing for learned men. The digressions in which M. Erman indulges flow spontaneously from the philosophical habit which he had evidently acquired before setting out on his journey—of contemplating all objects and events in every possible aspect.

The discovery of platinum in Siberia is well known to be of comparatively recent origin. At Kushva, M. Erman made an acquaintance with the discoverer, M. Volkou, and he gives the following account of the distribution of gold and platinum in the district:—

> ' Gold and platinum in these districts lie in beds of pebbles, partly at the bottom of the valleys that cross the course of the Tura, and partly diffused more widely through the plains on either side of this river; the metals lying among the detritus of the hornblend and feldspath, collected between the transition limestone rocks which bound the valleys. There would appear to be no difficulty, at first, as to the source of their production, as they are scattered over the slopes of the Ural, east and west; still the unaccountable peculiarity was found to prevail there, that the quantity of gold in the undisturbed veins of quartz was much less than in the sedimentary beds, and that it was likewise different in its form and condition, being in crystalline scales in the former, and in roundish grains in the latter. It cannot, therefore, proceed from veins like the present, of which the beds on the east of the hills, in the district of Kushva, are formed; but the whole substance of the rocks through which these veins penetrate must be impregnated with the metal. It was in a bed of worn fragments of greenstone and limestone, washed by the river Iss into the lower valleys, after the bursting of a dam formed across it, not many years since, by a landslip, that platinum, sand, and iron, mixed with titanium, were first found." (Vol. i. p. 250).

It is a remarkable fact, that while nations, deemed little above savages, have been in the habit of treating *idiots* with kindness and a respect almost amounting to veneration, we, until now, have allowed these unfortunate beings to remain as neglected and despised outcasts. It was only a few weeks since that we announced in the pages of this journal a plan, for the first time suggested in this country, of erecting an asylum for idiots. It is true that in less favoured countries than our own, this kindness towards idiots has probably been based on superstition.

> " The superstitious feelings of the Russians are strikingly evinced in the veneration with which the Blazhennie (from *blayo*, favour, blessing, *Russ.*), or blessed people, as they term them, are treated. They are nothing better than idiots to whom they apply this name—whose mental condition is believed to be a peculiar endowment, and indicative of supernatural possession or divine transport; and communities here consider themselves as much favoured by the presence of a blazhennie, as the Swiss do with the Cretins. All their casual expressions are looked upon as oracular; and they are often invited to great distances by those who have the means to pay for their unconscious vaticinations. Religious establishments are the foremost in their anxiety to attach them to their body, by which they derive considerable profit. It is not very long since there was an instance of a female convict obtaining a remission of her sentence, in consequence of some expressions of fatuous half-meaning that escaped her; and she was upon the point of entering upon a new career as prophetess, but for the jealousy of some priests, by whom she was convicted of premeditation. She was ultimately condemned to complete the full term of her exile." (Vol. i. p. 273).

The intensity of the cold in a Siberian atmosphere, and the ease with which it is borne by the inhabitants, without injury to health, excites the surprise of those who have been accustomed to temperate climates. The most intense cold prevails when there is the least light, *i. e.* when the days are only a few hours long. Hence the windows of the dwelling consist of small holes in the eastern wall, and these are actually glazed with flakes of ice a foot thick. The fire within causes the ice-window to melt on the inside, and it thus becomes as smooth and polished as a mirror, while the crevices are completely closed by the refreezing of the melted ice. The quantity of light which penetrates is small; but the Siberian, at this season of the year, sacrifices light for warmth. We are elsewhere informed by the author that some of his Samoyede companions slept comfortably *al fresco* in their fur garments and skins, although the snow beneath them had a temperature of —31°, or 63° below the freezing point of water! (Vol. ii. p. 71).

The fact that a temperature at or near the freezing point prevails throughout the year at a few feet depth in the ground, will account for the absence of putrefaction, and the perfect preservation of the bodies of the dead. Erman mentions a remarkable instance of this at Beresou, in the disinterment of the body of Prince Menchikof, the minister of Peter I., *ninety two years* after burial. "The coffin was found to be embedded in frozen soil, and its contents had undergone so little change, that pieces of the clothing in which the body was wrapped were sent to the descendants of the deceased; and even the eyebrows, heart, and other parts of the corpse, were added to these relics." (p. 462). A wooden church, which the exiled minister erected on the spot with his own hands, has long since fallen to decay.

The author describes a curious feature in the habits of the rein-deer, which we have never before met with in the accounts published of this animal by writers on natural history:—

> "I had already had occasion to remark at different yurts, the remarkable longing which rein-deer have for human urine, but I have never seen it exhibited so distinctly and decidedly as to-day; for in order to gratify this desire, some of these shy animals had spontaneously come close to the tent, and as soon as any one went out to make water, they ran up in full trot to catch the stream in the air with their under-lip protruded; and if the first were driven back, then others hastened forwards, and kept licking with avidity the melted snow. It is manifest, therefore, that it is not the warmth of the fluid, but its saltness, which awakens this desire, as we sometimes observe it in our he-goats; but it exists in these animals in so extraordinary a degree, that the taming of the rein-deer, or the power of habituating them to their masters, seems to depend essentially or perhaps wholly upon it. In no other case do they lay aside their natural shyness or their apparent aversion to man; for they will not eat from the hand, however good the fodder; and if fresh moss be plucked and thrown to them on the snow, they only smell it, and turn away." (Vol. ii. p. 73.)

At Kiakhta and Maimachen, M. Erman came in contact with the Chinese. The former is the frontier-town of Russia, and is more distant from St. Petersburgh than that city is from the centre of the earth!* He ascertained that the sea-slugs, which the Chinese are in the habit of eating as great delicacies, are nothing more than the large and long muscles of the *Holothuria fuliginosa.* The animal, in the dried state, is only seven lines wide and two inches long; but when steeped in water it swells to double the size. When boiled for some time it yields a well-flavoured and abundant jelly, which is, however, very salt, most probably owing to the saline matter retained in its body in the process of drying. The jelly is coloured brown also by the pigment of the outer skin. The muscular substance or meat which remains after extracting the jelly, is tough, and tastes not unlike veal.

The Chinese physicians of Maimachen have been in the habit of employing acupuncturation in the treatment of diseases: and they appear to have adopted this practice long before it was known in Europe. (Vol. ii. p. 261).

M. Erman states that the goitre is very prevalent in Siberia. He met with it in a severe form in the valley of the Lena; and it appears that one place, Gorboosk, actually derives its name (Goitre-town) from the frequency of this disease among the inhabitants.* It would also appear from statements made in other parts of the work, that the Siberians are subject to a severe form of ophthalmia, and a disease which resembles, from the description, elephantiasis. The practice of medicine appears to be at a very low ebb among them: it appears to exist only in an empirical form.

Our author was able to confirm the accuracy of the observation which philosophers have recently made respecting the connection of the magnetic condition of a locality and its temperature. The Siberian magnetic pole is between Irkutsk and Yakutsk, and there is no doubt that the magnetic meridian was crossed near Parshinsk, in longitude 112°.25 E., and latitude 82°.5 N. Here then is a singular addition to our knowledge of climate, that the greatest intensity of cold is met with at the magnetic pole. Yakutsk, the capital of Eastern Siberia, lies two degrees farther south than Drontheim in Norway, and about the same dis-twice more south than Beresov on the Obi; yet these places enjoy an incomparably milder climate than that of Yakutsk. In the latter place, the soil within a few feet from the surface, is frozen throughout the year to a depth of 630 feet, hence the only supply of water is from the river in summer, and from the melted snow in winter. Erman remarks—

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* At Tarakanova, which is 80 versts nearer St. Petersburgh, there is a pillar or milestone recording the measured distance from the Russian capital—"To St. Petersburgh, 5963 versts (3975 English miles)."

* Gorboosk, from *gorb*, a knob or tumor.

> "The inhabitants of the Swiss Alps would not unjustly think themselves lost, if they were compelled to live at the height of 10,000 feet or 2300 feet above the Hospice of the Great St. Bernard, and there to support and clothe themselves by keeping cattle, and with the productions of the surrounding mountains· yet they would there, and not until they arrived at that height, be settled on ground having the same temperature which I found here among the Yakuts, who are rich in cattle. It would seem, therefore, as if that succeeded in Siberia which was impossible in Europe, if we did not take into account that the same constant temperature of the ground may be made up at different places of very different elements." P. 368.

It would appear from thermometrical observations made at Yakutsk by two intelligent inhabitants, that the daily range of temperature is far greater than under any of the meridians of Europe. From an examination of these, it appears that the mean temperature of the air in Yakutsk is 18°·5. A degree of cold exceeding 58°.5 takes place every year between the 17th December and the 18th of February; and most frequently in the first three weeks of January. We need hardly inform our readers, that at this temperature, mercury would be a malleable solid, capable of being drawn into wire or rolled into sheets, and actually it continues in this state for one-sixth of the year. The maximum cold observed on the habitable globe, was recorded here on the 5th January, 1829. The spirit thermometer then sunk to —72°·4, or 104°·4 below the freezing point of water! Erman and his translator are mistaken in stating that the lowest degree of cold yet produced by *artificial* means was no more than —87°. Professor Faraday has by the aid of solid carbonic acid and ether produced a cold = —166°, or nearly 200° below the freezing point of water. It appears that as a compensation for the severity of winter, a warm but short summer succeeds by equable and rapid transitions. There are 128 days in the year without frost, and during the summer months the thermometer has been known to rise in the shade as high as 77°. During the short summer, the ground is thawed to the depth of three feet, and crops of wheat, barley, rye, potatoes, turnips, and other hardy vegetables, are obtained. The soil is in its original or virgin state, and is exceedingly productive without the aid of guano, or the numerous artificial manures to the use of which we are obliged to resort. As we have elsewhere stated, the inhabitants do not appear to suffer in health from the severe climate in which they live, nor can we find that their food consists entirely of oil or other highly carbonaceous compounds, which, according to Baron Liebig's theory, would be absolutely necessary to prevent their bodies from being consumed by the highly condensed oxygen, which it is supposed they are obliged to respire.

Mr. Cooley gives the above temperatures in Reaumur's degrees as in the original: we have rendered them into Fahrenheit's degrees, in order to make them intelligible to English readers. It is a matter of regret that all our best translators are guilty of this fault. As English books are written for Englishmen, foreign degrees and measurements, if introduced at all, should always be accompanied in brackets by the corresponding English equivalents.

Here is a fact interesting to meteorologists regarding snow:—

> "I had begun about noon to measure solar altitudes, when a number of light clouds, driven fast by the west wind, began to form. The air cooled down to 34°, and snow fell for sixteen minutes; then the clouds dispersed again, and the evening was clear, with increasing cold. I have never seen snow in such perfect and variously-formed crystals as during this short and sudden storm. Each grain fell single, and among the few which settled on my instruments, I could distinguish six different forms: doubtless many more remained unobserved; for my attention was drawn in the meantime to a more wonderful and quite novel phenomenon. Many of the crystals began to melt the instant they touched a solid body, and some, as it seemed to me, melted while falling through the air; but this was followed by a new congelation, the grain of snow assuming, not its previous form, but another more complex. The most complicated forms, indeed, were com-

paratively rare; but those transformed under our eyes were so predominant, and presented a spectacle so full of motion, that at last we could hardly help imagining them to be endowed with life. In fact, it is only in the case of living beings that we are accustomed to witness such mysterious changes, without inquiring after the forces that produce them." (Vol. ii. p. 502).

We here close our notice of a highly interesting work. The space which we could assign to it has not been sufficient to do full justice to the labours either of author or translator; we must leave this to our literary contemporaries. Still our readers will be able to form an opinion of the contents of these volumes. The reputation of Erman as a scientific observer, renders it unnecessary for us to say more than we have said at the beginning of this notice; and it is only doing justice to Mr. Cooley to state, that the translation is extremely well executed.

Correspondence.

ON THE CAUSES OF GOUT.

SIR,—The careful reading of Mr. White's perspicuous and able paper on gout, in the GAZETTE of the 18th inst., has induced me to make a few observations on one cause of gout which has hitherto not been, as far as I know, alluded to by writers on that disorder; and I trust that the few observations on the nature of a disease of which I have had great practical experience, will not be deemed presumptuous, or altogether out of place.

I take the tenor of Mr. White's paper is to prove, 1st—That the cause of Gout is an animal poison in the blood, transmitted from parents to their children, or generated in those in whom it is not hereditary, in a manner which, in the present paper, he has not pointed out, but has left us to infer it to be by vitiated secretions produced by an erroneous dietetic system, which he intends to point out in a future publication. 2nd—That this poison is formed and retained in the body by a functional disorder of the liver.

All the symptoms and products of gout lead to the conviction that its cause is a specific animal poison, cured or suspended by a specific remedy; and that paroxysm of gout is a discharge of the morbid products of gout through the kidneys, liver, and skin, attended with more or less fever and inflam- n.

That the gout is transmitted from the parents to their offspring is a fact never attempted to be controverted; but as to the manner it is generated where not so transmitted, authors have differed most widely, and given a variety of causes, some of which are of the most opposite nature: but most are agreed that intemperance and indolence are its main producers. The gout so frequently attacks the most active and temperate men, that I feel certain these two supposed causes are much overrated, and that intemperance more frequently acts in bringing on paroxysms by exciting fever, where the gout probably had been long latent in the system: and there is no fact better established than that intemperance has much decreased of late years, while the proportion of the populace now attacked with gout is more numerous than formerly. My own conviction is that the gout is sometimes communicated from one individual to another; that it was so in my own person, and in many others that have come under my own observation. If the cause of gout be an animal poison, and I think there can be no doubt of that fact, and which Mr. White has, in his paper, pointed out in a clearer manner than has hitherto been done, I do think it far more likely to be produced by long attendance on those suffering from this malady, whose whole secretions are, during a paroxysm, greatly impregnated with the morbid products, than by diet. I had a most painful and protracted attack myself, in the spring of 1847, which lasted till near Midsummer; during the sleepless nights that it occasioned, I thought of every possible cause that could have produced it. It was not hereditary in me; I could not call to my mind one relation that had ever had it: it could not have been indolence that produced it, nor intemperance, for my habits are temperate, and I take a great deal of exercise in the open air; then what could have been the cause of an attack that first began in the eyes and afterwards pervaded the whole system, almost every joint, the skin, and even the pleura? My own reasoning on gout led me to the same conclusion as Mr. White, that it was an animal poison, and, being so, it might be also communicable, and that I had derived it from some one of the numerous patients afflicted with the gout that I had attended from the autumn of 1846 to the summer of 1847.

In one of my visits to a gentleman who suffered from repeated attacks, and in whose hot room I remained a long time exposed to the effluvia of his profuse perspirations, and also to the evacuations which I had to examine, I shewed him my gouty hands, and told him that I considered I had caught the gout of him, or some one else. "I have thought the gout was catching before," was his reply; "I inherited the gout from my parents: father and mother, brothers and sisters, all had gout, but none of my late wife's relations. She became gouty after her marriage, and it in a great measure destroyed her. I have often thought she received it from me."

A patient of mine, now in business, a very gouty man, declares that none of his relations are so afflicted, and that he became so while he was a valet to a gouty gentleman, whose chalk stones he used often to remove, as well as bandage his legs, and give him every kind of attention when helpless from the disorder.

There is now living in Windsor Forest a former valet to a well-known nobleman, a personal friend to the three last kings, who is crippled by gout, and who relates that, when he first entered this nobleman's service, who was frequently attacked by gout, he was thus addressed by him:—"J——, have you ever had the gout?" "No, my Lord," was the reply. "Then you will have it. I have never had a valet that did not get the gout before he left me," was the nobleman's rejoinder. And although this man was of an excellent constitution, and not hereditarily tainted by gout, lived in a most temperate and careful manner, and has been all his life one of more than common intelligence, and who avoided all excesses, and adopted such regimen as appeared most likely to cause exemption, and yet got the gout; and how is this to be explained—that all the valets, whose service compels them to keep within bounds, should be so attacked, whilst the others, who might, without much restriction, run riot in strong potations, escaped?

It would appear that Mr. White is rather premature in declaring that a fit of the gout is only a manifestation of a functional disorder of the liver. Without doubt, the liver being the greatest purifier of the blood of any organ in the body, a larger portion of morbid matter may pass through it, and then be discharged in the bowels, than of any other single organ; but a perfect removal of a fit of the gout seldom takes place without a profuse perspiration; and profuse perspirations are exceedingly popular as a means to remove the gout. That the gout cannot be removed by acting on the liver merely, or without colchicum, can be explained by two cases that occurred to me recently. One gentleman had a severe fit of the gout and paralysis, the paralysis appearing first, but coming on slowly, his mouth lastly being drawn completely on one side, and his speech impaired. I recommended this gentleman to allow the gout to take its course, believing it to be the best proceeding to take in reference to the apparently more formidable attack of paralysis. He was bled and cupped, and had calomel and saline purgatives, and this procedure met with the approval of a gentleman of eminence from London, who strongly recommended that colchicum should not be administered. Notwithstanding this active treatment, and acting on the secretions, the paralysis got worse, and the fever, and gout and pains in the head increased. I then determined to give colchicum in as strong doses as the patient could bear,—as the gout passed away, so did the paralysis, and the pain in the head. He did not regain the power of closing the eye perfectly for some time, and the tears ran down the cheek, but this was also restored by small doses of colchicum long repeated.

Another gentleman whom I saw afterwards, but did not attend, had paralysis, was gouty; he was purged with calomel and salines for a long time; starved nearly, and was under treatment by the most eminent men in London for months: his voice is now defective, and is unable to take any exercise. I attribute the difference in the above cases, to the free use of colchicum in the former one, administered as a *specific* for the gout, on the same principle that I would administer mercury for syphilis; for in all probability, the causes of the paralysis in these gentlemen, was a thickening of the membrane of the brain similar to the joints by a deposition of gouty matter,—as paralysis is sometimes occasioned by disease of the cranium in syphilis; and I repeat, that no treatment, however calculated to increase secretions of the liver, could have benefitted these two gentlemen, unless it was combined with sufficient quantities of the *specific, colchicum.*

As regards the treatment of gout, both for its prevention and cure, it appears to be very simple. A fit of the gout is to be cured by colchicum so administered as to injure as slightly as possible the constitution.

To prevent the return of fits, is to adopt the most sparing regimen: a fit of the gout is inflammation of a specific character. A person should live in cool rooms, and if he drink fermented liquors at all, they ought to be weak beer, or light acid wines,—to eat sparingly of meat. Fish and *vegetables well cooked*, and fruit ad libitum. I think that proscription of acids and vegetables, and the recommendation of mutton chops, and weak brandy and water for diet, to be founded on erroneous principles. The acidity and eructations are not produced by the diet, but by the acrimony of the juices, when the fire, as I may so term it, is lighted up in the system. Many gouty people by abstinence, may avoid attacks altogether,—*all* may diminish the severity of the fits. But there are many whose occupations require the body to be kept up in high condition, (if I may use such a term), others who cannot resist, these must occasionally suffer, and suffer severely. As regards the asthenic species, or, as it is popularly termed, the cold gout, that I consider to be an exception to the rule, and to be left to the sagacity of the medical attendant, but it ought to be strictly considered an exception. There are asthenic cases of small-pox and asthenic cases of measles, and it has been the making the exception the rule that formerly led to the heating treatment of small-pox and measles, and to the destruction of thousands of human lives.—I am, sir,

Your obedient servant,
G. Pearl.

Windsor, August 24.

Medical Intelligence.

THE CHOLERA.

A recent letter from Aleppo gives a frightful account of the ravages of the cholera morbus in Asia Minor. The number of deaths increased daily; and between the 17th and 19th of July, nearly 1000 patients succumbed. Belief in predestination prevents the Mahometan part of the population from taking any precautions, or resorting to any remedies. Since the 15th of July, the average diurnal number of deaths has amounted to 140. To aggravate the evil, there are only three European physicians in Aleppo, with a population of 80,000.

A letter from Abo, in the Grand Duchy of Finland, dated the 1st inst., states that the cholera had appeared in that town for the second time on the 26th of July; 52 persons had been attacked, of whom 25 had died, and 11 had recovered. Further accounts state that that fatal malady was making great ravages in Czernowitz, in Austrian Galicia. The inhabitants were quitting the town to take shelter in the mountains.

Russia.—The Vienna papers of the 17th and 18th, received this morning, state that the cholera is raging in the interior of the empire, and that the disease is exceedingly malignant at Riga, where as many as 100 are carried off daily, out of a population of from 40,000 to 50,000 inhabitants. It is remarkable that the parents of the patients who have recently died of cholera were carried off by the same disease in 1832-33.

KING'S COLLEGE HOSPITAL.

The Committee of Management of King's College Hospital have succeeded in purchasing a large plot of ground, on which they propose to erect a new hospital, on such a scale as will afford ample accommodation for the suffering poor of the densely populated district around it. The ground extends from Carey Street to Clement's Lane, and is of considerable size. This is a very important acquisition, not only for the hospital, which now occupies a high position among the charitable institutions of the metropolis, but also for the neighbourhood, which cannot fail to be greatly improved by the removal of the old decaying houses now standing upon the ground, and the erection of a handsome building instead of them. A new street has been long talked of in this locality, to relieve the overthronged thoroughfare of the Strand; and we cannot help thinking that the Commissioners of Metropolitan Improvements, if disposed to act in conjunction with the authorities of the hospital, might find their object much facilitated by this new acquisition on the part of the committee.

ADDRESS TO THE GRADUATES OF THE UNIVERSITY OF LONDON.

The Committee appointed at the General Meeting of Graduates, at Freemasons' Hall, on the 8th of June last, desire to address their constituents, to inform them of their past proceedings, and of the measures in contemplation for securing and improving the position which they feel that they have already gained.*

The Resolutions passed at that Meeting pointed, it will be remembered, to the organization of the Graduates for the protection of their academical and general interests—their desire to act in harmony with the views of the Senate—to the securing for the Graduates as a body representation in the University; and until this could be effected, an occasional and stated communication between the Graduates and the Senate.

And by the 4th Resolution your Committee was appointed "to draw up a scheme for the organization of the Graduates, to be submitted to a future General Meeting, to be called by the Committee: such Committee to have authority to communicate the Resolutions now agreed upon to the Senate, and to have full powers to act generally on behalf of the Graduates, until such General Meeting of the Graduates shall be held."

In acting upon this Resolution, your Committee consider it premature to draw up any elaborate scheme of organization until the direction in which it would be most useful should be better ascertained. If the Senate—of whose views your Committee were then entirely ignorant—should be prepared for the immediate admission of the Graduates as part of the Body Corporate of the University, the Graduates would become organised by the arrangements necessary for that measure. If, on the other hand, their claims were entirely repudiated, an organisation of a different nature would have to be provided.

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* It will not be amiss to state, for the information of such Graduates as may not have become acquainted with the present movement, that it originated in the conviction long felt among the Graduates, both that the Metropolitan University was deficient in that widespread influence in society which the liberal views of its founders seemed to promise, and that the value of their own degrees was very imperfectly estimated by the public. These facts were felt to be closely connected with the absence of any constitution incorporating the Graduates as part of the University. The movement may fairly claim to be of public interest, no less than of private benefit to the Graduates themselves.

Your Committee, therefore, immediately placed themselves in communication with the Senate, and having satisfied that body that they were representatives of the general wishes of the Graduates, drew their attention to the appointment, in 1840, of a Committee of the whole Senate, to consider of any alterations it might be expedient to make in the Charter, and to the resolution unanimously agreed to on Mr. Warburton's motion by that Committee, " That as soon as the Graduates of three years' standing shall amount in number to 300, it will be expedient to constitute the said Graduates, and all future Graduates of the same standing, together with the persons who then or thenceforth shall be or shall have been Members of the Senate, the Electoral Body of this University;" and desired to be informed whether it was in contemplation to act upon this Resolution, which it was believed would take effect on the 1st of December next. Your Committee were informed in reply, that the Resolution was no longer subsisting, having been subsequently rejected; and that the subject had not since been mentioned in the Senate.

Finding, however, that the Members of the Senate were fully alive to the extent and serious purpose of the present movement, your Committee persevered in pressing the matter on their attention, and the Senate shortly afterwards consented to represent the wishes of the Graduates to the Secretary of State.

The Senate have also agreed to communicate to your Committee such of their minutes as generally affect the Graduates, and to receive such representations as your Committee may think it desirable to offer.

Your Committee would observe, that by this Resolution, and the fidelity with which it has been acted upon, *one* of the objects of the General Meeting is already realised; a regular communication being established between the Senate and the Graduates. Your Committee are now in constant intercourse with the Senate, and are also extensively acquainted with their past proceedings; and are consequently in a position to invite the communications of Graduates upon any matters either of general importance or of personal interest; in both of which they have reason to assure themselves their representations will have weight.

The Earl of Burlington having, in pursuance of the Resolution of the Senate, informed Sir George Grey of the wishes of the Graduates, your Committee immediately obtained his consent to receive a Deputation, and accordingly Dr. Storrar, Professor Miller, Dr. Tyler Smith, Mr. Quain, Mr. Jessel, and the secretaries, Dr. Robert Barnes and Mr. Foster, waited upon Sir George Grey, at the Home-office, on the 28th July ult.

The Deputation, in pursuance of the instructions of your Committee, represented to Sir George Grey the circumstances under which this movement originated—the strength of the feeling among the Graduates, as evidenced by two crowded meetings, (the latter attended by Graduates from distant parts of the county,) and the numerous letters of adhesion then and since received, and that consequently your Committee ought to be regarded as representing the considerable majority of the present Graduates of the University. They then represented that by the present constitution of the University the Senate was a body completely isolated from the Graduates, and without any authorised channel of communication with them, and consisted principally of members of other Universities, who could not be supposed to feel that peculiar and exclusive interest in the University of London which must be necessarily felt by its Graduates: that at present (and the consciousness of this had created great uneasiness) the Graduates had no share or influence whatever in the management of its affairs, but as soon as they had received their degrees, (perhaps by the post or a messenger,) they had nothing more to do with the University: and that their desire was to be made a part of the Corporate Body of the University (being in fact the parties principally interested in its welfare), with privileges similar to those enjoyed by the Graduates of Oxford, Cambridge, and Durham (in accordance, as it is understood, with a promise to that effect from Government at the foundation of the University), and subject to such modifications as the peculiar nature and objects of this University might render proper.

The deputation then stated that the Graduates already exceeded 400, and from the number of the Under-Graduates it was probable that before the necessary arrangements could be completed, they would fall little short of 1000 in number, and, upon these grounds, strongly submitted that the time was now come for such a reconstruction of the University as would admit the Graduates to be a part of the Corporate Body, agreeably to the original intention of its Founders;

and without entering upon any plan or details (which appeared premature), requested Sir George Grey, if he acceded to the general principle of the above representations, to remit to the Senate the consideration of the proper measures to be adopted. Your Committee then proposed to submit to the Senate such a measure as should satisfy the Graduates, trusting that in the result a constitution might be framed which should meet with the approval of Sir George Grey, and be acceptable to the present Senate and the Graduates generally.

Although your Committee are necessarily anxious not to construe Sir George Grey's reply too favourably, they believe the Graduates may rely upon his favourable consideration of their wishes. Sir George Grey was understood to say that he could not answer definitively without consulting the Senate; but that the desire of the Graduates was very natural and proper; and if the Deputation would oblige him with a written statement of their views, it should have his best consideration. Allusion being made to a rumour that it was in contemplation to fill up some of the vacancies in the Senate, Sir George Grey spontaneously assured the Deputation that, if that measure were resolved upon, it should in no way prejudice the Graduates, or their ulterior object of obtaining a new Charter.

A statement to the effect of the above representations has since been transmitted to Sir George Grey, and its receipt officially acknowledged by Mr. Waddington, the Under-Secretary for the Home Department.

In the present state of public business, an early reply from Sir George Grey is not expected. Your Committee are engaged meanwhile in the difficult and delicate task of drawing up a scheme for the incorporation of the Graduates in the University. For the purpose of giving useful expression and efficiency to their views, three plans appear to present themselves:—First: A Convocation of Graduates, as at Oxford, Cambridge, and Durham, with defined and distinct powers of their own. Second: The plan suggested by Mr. Warburton in 1840, to vest the entire administration in the Senate, who should become in process of time the representatives of the Graduates by periodical retirement of a proportion of their number, and election of new Members by the Graduates. Third: A combination of both these measures. Whichever of these your Committee may eventually submit, they will be guided by the assurance that the Graduates do not desire, and would disapprove (were it attempted) any mere transference to themselves of the powers now enjoyed by the Senate; but, duly regarding the rightful superiority of that body, to introduce themselves as a new power into the University, and to effect such a distribution of its labours as may most effectually secure the high purpose of its foundation.

Addressing themselves to the Medical Graduates, your Committee can assure them that their position with reference to the proposed Medical Registration Bill has engaged the serious attention both of the Senate and of your Committee. The Senate has entered a *caveat* against the projected new Charter to the College of Physicians, and Dr. Billing and Dr. Hodgkin have been examined as witnesses on their behalf before the Committee of the House of Commons. Your Committee, considering that the Graduates ought also to be represented, having a more immediate interest in the question, made the necessary application, and Dr. Storrar and Dr. Robert Barnes, M.B., were accordingly examined as representatives of the Graduates.

Your Committee are anxious to express the sense they entertain of the service rendered to the cause of the University and of the Graduates, by the clear demonstration submitted by Dr. Billing and Dr. Hodgkin of the superior character of the examinations for its degrees in Medicine.

Dr. Storrar and Dr. Robert Barnes urged the same point, contrasting the comprehensive examinations of the University of London, conducted under the sanction and supervision of the State, with the imperfect examinations instituted by the irresponsible medical corporations. Having established the fact that the examinations of the University of London formed a guarantee of fitness to practise, whether as a Physician or Surgeon, at least as efficient as that afforded by any other Institution, a formal claim was then urged that the Medical Graduate of the Metropolitan University should have the right to practice conferred upon him in virtue of his degree. It was further contended that he should be uncontrolled in this right by the superfluous examinations or *imprimatur* of the Colleges of Physicians and Surgeons, and untaxed by additional pecuniary contributions to these bodies—contributions which must appear in the light of exactions, as no equivalent could be given in return.

The leading arguments by which the foregoing claim was supported were:—

1st. The public good that must result from the stimulus thus imparted to the medical corporations to maintain a high standard of requirements from candidates for diplomas.

2d. The peculiar claim which the Graduates of the University of London have upon the care of the State, which had founded the University.

3d. The fact that in three several Acts of Parliament, the equivalency of the degrees in Laws and Arts of the University of London with those of Oxford and Cambridge has been already declared, and the consequent justice of extending the like consideration to the degrees in Medicine.

Special objections were also taken to certain provisions in the proposed Medical Bill, and in the Charters to the Colleges of Physicians and General Practitioners, especially against that clause which would admit as Members of the College of Physicians (the proposed qualification to practise as Physician) M.D.'s of Scotch and Foreign Universities, while it would exclude M.B.'s of the University of London. The attention of the Registration Committee was also directed to that extraordinary provision which would forbid a Graduate in Medicine from using his academical title, unless authorized by admission as Member of the College of Physicians.

The limits of this Address preclude a more detailed statement of the many topics adverted to in this evidence; but the Committee cannot forbear expressing the conviction they entertain, that the representations urged on behalf of the Medical Graduates of the University of London, will be followed by the most weighty and beneficial effects. It cannot fail to appear that an University which, from its constitution and connection with the State, and consequent freedom from all selfish influences, is so eminently calculated to advance the cause of Medical Science, and to promote the independence of the Profession, should assume a correspondingly high position in any settlement of Medical affairs.

Your Committee has appointed a Medical sub-Committee to watch the progress of the Medical Bill, and the Charters sought by Medical Corporations, the prosecution of which has been postponed to the next Session of Parliament; and the Committee invite the assistance of the Graduates generally in furnishing any suggestions or information that may promote the object of their labours.

In conclusion: although the position now gained is but a step towards our final object, it is an improvement very decided upon the condition in which we but recently found ourselves. At the time of the General Meeting, an immediate application to the Government for a new Charter was certainly not thought of. We were ignorant of the views of the Senate; our own were ill-defined and uncertain. We had been brought together by the consciousness of a common wrong—that while other Graduates held, as such, a position of at least some honour and influence, our degrees were unrecognized even by our own University. The energy with which the Graduates have taken up the matter, has effected the change. The Senate has shown its sense of the movement, and of the consideration due to our wishes, by themselves communicating to the Home Secretary our general desire to be represented in the University, and by resolving to communicate with your Committee in all matters of interest to the Graduates. And with respect to our ultimate views, your Committee have acquired, in drawing up a scheme for incorporating the Graduates into the University, not only clearer, but larger conceptions of the position which the Graduates may most beneficially hold. These, when matured, they will submit to the Graduates. It is not improbable, they may recommend their constituents to seek for a Charter, embodying them in a Convocation with extensive Initiative, as well as Vetoist powers, and providing for them, also, Representatives in the Senate itself, Thus the Graduates of the University of London will be raised to a position not inferior to that anciently held by the Graduates of Oxford and Cambridge; while the Metropolitan seat of their University ensures an advantage denied to the less fortunate sites of the older Institutions,—that the permanent residence in its immediate neighbourhood of the large majority of its Graduates will secure alike their duties from neglect and their privileges from usurpation.

(Signed) William Arthur Case, M.A.; Charles James Foster, M.A. LL.B.; Nathaniel Jennings, M.A.; George Jessel, M.A.; William Shaen, M.A.; Thomas Jacob Freeth, LL.D.; John Richard Quain, LL.B.; Frederick John Wood, LL.B.; P. Edward Barnes, B.A.; Jos. Gouge Greenwood, B.A.; Charles Wm. Maugham, B.A.; Timothy Smith Osler, B.A.; Wm. Willmer Pocock, B.A.; Wm. Caldwell Roscoe, B.A.; Edward Ballard, M.D.; Joseph Hullett Browne, M.D.; Stephen J. Goodfellow, M.D.; Wm. Edward Humble, M.D.; George Johnson, M.D.; Frederick William Mackenzie, M.D.; Fredericke R. Manson, M.D.; William Allen Miller, M.D. F.R.S.; Richard Quain, M.D.; John Snow, M.D.; John Storrar, M.D.; Robert Barnes, M.B.; Henry Letheby M.B.; William Tyler Smith, M.B.; John Birkbeck Nevins, M.D., Liverpool; John Taylor, M.D., Huddersfield; Joseph Carpenter Bompas, M.B., Bristol; Edwin Hearne, M.B., Southampton.

Graduates' Committee-Room,
37, Arundel-Street, Strand.
August 16th, 1848.

Selections from Journals.

ON AMPUTATION AND GENERAL AND LOCAL ETHERIZATION IN TRAUMATIC TETANUS. BY M. ROUX, NAVAL SURGEON IN CHIEF OF CHERBURG, CORRESPONDING MEMBER OF THE NATIONAL ACADEMY OF MEDICINE.

"If tetanus be caused by a wound, we must not hesitate to amputate immediately."—*Larrey, Chir. Milit.*, t. i. p. 260.

"Experience has long banished from my mind all doubt as to the alleged efficacy of amputation in these cases."—*Dupuytren, Clin. Chir.* t. ii 609.

I. *On amputation in traumatic tetanus.*

Struck with the inefficiency of the treatment in the numerous cases of traumatic tetanus which he met with in Egypt, Larrey was induced to combat that so often fatal disease by amputation.

Velpeau, Lisfrance, Blizard Curling, and others, have reproduced this idea in their writings; while on the other hand, Boyer, S. Cooper, Dupuytren, Berard, and others, have combated it.

Others—among whom is M. Baudens—consider that the question, still undecided, can only be settled by experience and a just appreciation of the facts.

I propose to examine this question anew, both in a theoretical and practical point of view.

While some surgeons have advised amputation in all cases of traumatic tetanus, others, and these comprise a great majority, only amputate when the nature of the wound itself requires the loss of the limb.

The partisans of amputation, considering that the primary cause of tetanus resides in that part of the peripheral nervous system directly modified by the wound, have thought that by the removal of the cause the effect will cease. They found their opinion on the gravity of the disease—on the imminence of the danger leaving no choice—and on the two following considerations: 1. The wounds followed by tetanus are often complicated by the laceration of nerves, and by the presence of unrecognised foreign bodies—effects which are removed by amputation. The reality of this fact has often been demonstrated by the autopsy: of this Dupuytren reports a remarkable example. I have noticed two additional cases, under the care of M. Lallemand, at Montpellier. 2. Amputation being inevitable, owing to the gravity of the lesion, the disturbance which it excites is far from inducing the same danger that would exist if it were practised after the cessation of tetanus, which it might then reproduce. In addition, the patient is not exposed to the other results of severe lesions. Finally, six cases of recovery after amputation have been recorded by French surgeons; and out of eleven cases reported by Mr. Blizard Curling, seven recovered. In a case cited by Valentin, tetanus, following an injury to the great toe, which disappeared after amputation, returned before cicatrization was complete.

Many surgeons object to amputation in traumatic tetanus for the following reasons: —1, Traumatic tetanus may have its origin in a nerve affected by a lesion, but once developed it invades and exists in the whole system; 2, Amputation, often itself the cause of tetanus, produces disturbance capable of aggravating the disease; 3, The annals of such cases attest that several therapeutical agents have produced more cures than have been obtained by amputation; 4, Finally, amputation is far from always curing traumatic tetanus: Larrey, Dupuytren, and Cloquet, have cited six unsuccessful cases; and S. Cooper three. According to Sir James Macgregor, the English, after the battle of Toulouse, made many unsuccessful attempts to cure tetanus by amputation.

The solution of this question is without doubt one of the most difficult in surgery. In my opinion—

1. Amputation is not usually a curative means in tetanus.

2. Amputation will most probably be of service when tetanus supervenes on irregular wounds, complicated with undetected foreign bodies, and with lacerations of nerves.

II. *On etherization in traumatic tetanus.*

The appreciation of the modifications which the organization presents under the influence of tetanus and of etherization, soon led surgeons to oppose those agents which produce insensibility and muscular relaxation to a disease characterized by opposite phenomena—exaltation of sensibility and muscular rigidity. Recovery from idiopathic tetanus has already resulted from the use of the ether or chloroform in cases treated by MM. Petit, Mignot, and Ledru.

Traumatic tetanus, more unyielding to treatment than traumatic, has already yielded several times to anæsthetic agents, since, by these means, Pertusio and T. Hopgood, have obtained successful results. But at other occasions chloroform and ether have proved unserviceable, as in the cases of MM. Velpeau and Ivonneau; indeed, these agents appeared to aggravate the disease in the case of one of the wounded of February, cited by M. Robert, and in another case communicated by M. Roux.

In spite of the want of uniformity in the results obtained, some clinical facts authorize a perseverance in the plan of etherizing patients affected with tetanus from physical causes, and of submitting them to repeated etherizations.

In applying the physiological views of reflex movements to traumatic tetanus, I think we are led, not only to etherize the whole system through pulmonary inhalation, but also all wounded surfaces, so as to modify them by local etherization from the immediate application of anæsthetic vapours.

If, as Muller, (Marshall Hall), and the most eminent physiologists of our time, consider, the theory of reflex movements is applicable in the explanation of tetanic contractions, much light will be thrown on the pathology and therapeutics.

"When," says Muller, (Phys. t. i. p. 609) "sensations which have been produced by external impressions on the sensitive nerves, determine movements in other parts, the effect is never the result of reaction between the sensory and motor fibres of a nerve itself; but it depends upon this, that the sensorial excitement is transmitted to the brain and spinal marrow, and then reacts on the motor fibres.

"In pathological conditions," he adds, "the strong local excitement of a sentient nerve, may, by the violence of the stimulus transmitted to the brain and spinal marrow, produce convulsions and rigors, as may be seen after the extraction of a tooth. It often happens that the local irritation of nerves from inflammation, or the presence of a tumor, will produce general spasms, and even epilepsy.

"The irritation of the spinal marrow, occasioned by local excitement, may be so severe where there is an extensive injury, as to give rise to continual convulsions. All violent irritation of the spinal marrow, is a tetanus, which, may have been excited by narcotic poisons, or by some immediate and local impression. We may easily understand on these principles, the manifestation of traumatic tetanus.

In this form of tetanus the muscular contraction may be caused by two circumstances—first, by an injury to some part of the sensory nervous system; secondly, by the immediate lesion of the motor nervous system.

In the first case, the lesion may exist at the extremity of one or more sentient nerves, in the course of those nerves, or in the posterior or central portion of the spinal marrow. The impression inflicted on the sentient nerves by a wound, is transmitted to the posterior part of the spinal marrow, which reacts on the motor portion of the spinal marrow; and hence the convulsions and muscular rigidity, the duration of which depends on the permanence and extent of the exciting cause. Things happen nearly in the same manner, and the final result is the same, when there is immediate injury to a sentient nerve, or to the sensitive portion of the spinal marrow.

When, on the other hand, the lesion exciting the tetanus exists in the motor nervous system, it always affects the anterior layers of the spinal marrow, and to an extent in relation with the number of the contracted muscles. The lesion of only one motor nerve, will only excite coutractions in the few muscles supplied by it. When a lesion of the motor porton of the spinal marrow excites tetanus, the phenomena are not explained by the laws which regulate the reflex motions.

The primary cause of traumatic tetanus resides in the wound itself, and may exist either in the extremities or course of the sentient nerves, or in the motor portion of the spinal marrow, or the motor nerves.

Surgeons have acted in instinctive accordance with these principles when they have successfully treated tetanus by such means as the local application of opium and morphia; the division of the lacerated nerves; the extraction of foreign bodies which had wounded the nerves; the division of ligatures which compressed them; the incision of imperfect cicatrices; cauterization; the amputation of the limb, and other modes of procedure.

To the list of successful means, I propose to add the direct or local etherization of the wounded surfaces. By this direct etherization and consequent local etherism, I hope to isolate the affected part from the rest of the organism, to render insensible the wounded sentient nerves, so as to unfit them for transmitting morbid impressions, and to arrest the tetanus by preventing the reaction of the sentient upon the motor nervous system. But while this local etherization, (which I accomplish easily by means of my ether apparatus), ought to be practised on the wounded surfaces, or the lacerated sentient and motor nerves, the anæsthetic vapours ought to be used with judgment, so that the insensibility may be excited to a proper degree, and that the mobility of the part may not be permanently abolished. These precautions will be superfluous, when the surface of an amputated stump, or of the integument denuded by a burn or lacerated wound, shall be subjected to etherization.

M. Longet on local etherization.

It results from the experiments of M. Longet, "that a mixed nerve, the sciatic, for instance, exposed in a part of its course, and submitted to the action of the vapour of ether, or of ether itself, becomes insensible, though still excitable, at and below the etherized point.

"In the *first degree* of direct etherization, which appears at the end of half a minute in dogs and rabbits, the nerve, although absolutely insensible at the points indicated, still has the power to excite voluntary motion in the muscles which it controls. In the *second degree*, which manifests itself after an immediate etherization somewhat more prolonged (three or four minutes), the mixed nerve loses the power which it still possessed in the *first degree:* it is still insensible, and is entirely dispossessed of the faculty of exciting voluntary motion, though its excitability still remains. Finally, in the third degree, which may be observed after the contact of the ether with the nerve of from twelve to fifteen minutes, there is neither sensibility nor voluntary motion in the muscles supplied by the nerve, nor any proof of excitability in the nerve."

The author afterwards makes the important remark, "That the direct etherization of the nervous system may be so conducted as to produce effects sometimes transient, at others lasting. In the first degree, the anæsthesia can only last a few seconds; in the second, the sensory and motor faculties sometimes return in less than twelve hours; finally, in the third degree, the prolonged contact of the ether may alter the intimate composition of the nervous tissue, the faculties of which can only be restored by the regeneration of the tissue itself."

The experiments on the same subject communicated to the Academy of Sciences by M. Serres, and the researches by MM. Pappeinheim and Good, on the structure of nerves which have lost their function under the influence of ether, shew the danger of exposing the nerves too long to the action of ether.

In advising direct etherization to wounds, lacerated nerves, and burns, I would confine its action to the first and second degrees pointed out by M. Longet. It is, indeed, advisable not to go so far as the second degree when the nerve to be affected is very large. In such a case, the exposure of the wound to the anæsthetic vapours, *repeated at short intervals*, would offer the advantages of continuous etherization without the dangers. Local etherization may be prolonged without danger when it is applied to a superficial wound.

In proposing direct etherization as a local treatment of traumatic tetanus, I do not conceal from myself that that disease soon embraces the whole nervous system, and lessens the chance of success by attacking it at one point only. Local and general etherization ought to be conjoined in such cases with the other successful therapeutical agents.

My confidence in the efficacy of the means I propose is not founded on the treatment of any case of tetanus; nevertheless, experiments which I will relate authorise me in concluding that it is rational, when we employ general etherization in traumatic tetanus, to conjoin with it local etherization.

III. *On amputation and etherism in traumatic tetanus.*

It is probable that the opponents of amputation in traumatic tetanus, even when the lesion itself calls for the loss of the limb, will have modified their opinion since the discovery of chloroform.

Amputation practised during etherization is unaccompanied by any shock to the system, and converts the complicated lesion before existing into a simple wound. Besides this, etherism, producing phenomena the opposite of those of tetanus, opposes with advantage its action to that of the disease.

Everything leads to the belief that the truth of this principle will be acknowledged. *In traumatic tetanus, where the injury necessitates the loss of the limb, etherism ought to be excited, and amputation performed.*

In a case where tetanus followed an injury to the forefinger, M. Velpeau employed repeated etherization, without amputating. M. Yoonneau employed chloroform and ether, without amputation, in vain, in a case of tetanus following a gun-shot wound of the right hand. Both these patients sank, in spite of the repeated employment of chloroform and ether.

In the following case death took place, although amputation was performed and repeated etherization was practised.

CASE.—*Traumatic tetanus—amputation of the leg during etherism—repeated etherization during four days—death.*

9th April, 1848. Joachim Gauthen, a robust man of nervous temperament, was admitted into the Hospital of Marine, at Cherbourg, suffering from fracture of the fibula, with complete dislocation, outwards, of the ankle joint. There was a small wound over the inner maleolus. The foot was easily replaced. Next morning there was neither swelling in the limb, nor general fever.

On the 12th, heat, redness, and swelling of the limb came on, accompanied by fever. During the next few days he became worse; fetid discharge came through the wound over the maleolus; and the parts over and within the articulation began to slough.

Incisions were made, and on the 21st the swelling was lessened, but the general condition of the patient was worse: the foot was displaced; the sloughing was extensive; the joint and the tibia exposed; the foot red and œdematous. In addition, he spoke and swallowed with difficulty; and trismus was present.

Amputation was now indispensable, and would have been already performed but for the general reaction, and the great swelling of the upper part of the leg. The immediate amputation of the limb was decided on, the occurrence of tetanus not being considered an obstacle.

In five minutes, unconsciousness was produced by chloroform. The inhalation was continued for three more minutes, until the stiffening of the limbs gave place to complete relaxation; and the leg was amputated, the patient being quite unconscious. The chloroformization was repeated several times during the operation; and the patient was insensible for about eighteen minutes.

After the operation, the trismus was slightly lessened; but the jaws could only be partially opened. The patient complained of violent pain in the stump. In the course of the day chloroform was administered five times. Each time pain was suspended with consciousness, and the trismus lessened with muscular relaxation. But these effects were only momentary.

Next day the pain was lessened, but the trismus was more pronounced. Poultices, with laudanum, were applied to the wound. Etherization was practised six times in the course of the day. The effect of ether on the patient did not differ from that of chloroform.

On the 23d, opisthotonos was established; but the limbs were still free, except during paroxysms. Ether was given once, and chloroform six times during the day. The ether excited a prolonged rigor, violent cough, and a sense of suffocation. The ether was consequently exchanged for chloroform. During the evening, after the last inhalation, the bronchiæ appeared to be filled with frothy fluid.

On the 24th, the symptoms were not materially modified. Deglutition was more laborious, and was always accompanied by cough and a sense of suffocation, as if each time liquid entered the air passages. The trismus and opisthotonos were complete and unyielding. He inhaled chloroform thrice during the day. The difficulty of breathing increased, and he became gradually worse. Deglutition was only possible during the short interval of muscular relaxation which followed the inhalation of chloroform.

At midnight he became suddenly worse: the respiration being frequent and embarrassed, the pulse rapid, and anxiety increased; convulsions came on; intelligence, hitherto scarcely affected, disappeared; a cold sweat covered the body; and, almost without agony, he died at 1 A.M., on the 25th.

Autopsy 24 hours after death—Complete muscular relaxation, which came on a few hours after death.—The brain and spinal marrow, slightly congested, were in all respects normal. Little blood in the cavities of the heart. Lungs engorged, but crepitating. Mucous membrane of the air passages, especially in the minute bronchi, of an ineffaceable red. Nothing remarkable was observed elsewhere.

In this case, the anæsthetic inhalations were only followed by momentary relief. The etherism, sometimes exciting cough and sense of suffocation, aggravated, for the time, the disease. The progress of the disease was not modified by their use, since he died on the fifth day from the beginning of the attack; the usual period at which the tetanic die.

In reflecting on the intense pain seated in the stump, it occurred to me, that direct etherization of the wounded surfaces might remove the painful impressions which were transmitted to the nervous centres, and cure the tetanus by removing the reflex action on the muscular system. It seemed to me that this local and direct etherization of the wounded surfaces would affect with anæsthesia the extremities of the sensitive nerves; interrupt the connection of those nervous extremities with their centres; deprive the nervous system of its painful participation in the suffering of divided parts; remove the muscles and the whole organism from the reaction which violent irritation in the incitor nerves produces: in a word, isolate the wound, by detaching it, so to speak, from animal life, without injuring its relations with organic life. This isolation, it appeared to me, might be obtained by the direct and continuous action on the wound of the vapours of chloroform or ether, without having to fear that the insensibility in the nerves would spread beyond the points immediately acted on by the anæsthetic vapour, that there would be danger from absorption, or that the stump, deprived of the reaction of the whole economy, might want the necessary irritation to carry it through its successive stages to cicatrization: since these vapours, which deprive the nerves of their functions, excite the rest of the tissues.

Experiments, with regard to the effect of local etherism on the lower animals and on man; but these are neither sufficiently numerous nor decisive to be yet brought forward.

ON THE COMPOSITION OF THE SPLENIC AND PORTAL BLOOD. BY M. J. BÉCLARD.

In a work lately presented to the Parisian Academy of Sciences, on the functions of the spleen and liver, the contents of which are based upon the results of comparative analyses of the blood of the splenic and portal veins, M. J. Béclard observes that his analyses of arterial blood confirm the opinion generally entertained, that, from whatever part of the arterial system it is taken, its composition is invariably the same. Arterial blood comes from one organ, viz. the lungs, passes through one organ, the heart, and is then distributed to all parts of the body. Venous blood, on the contrary, is derived from every organ of the body; consequently has sources as numerous as the organs themselves, and may be supposed to present certain differences in composition from whichever organ it is examined. With regard to the differences between arterial and venous blood generally, M. Béclard states, that, having in a series of experiments compared the blood of the carotid artery with that of the jugular and crural veins, he found a diminution of corpuscles and a slight increase of fibrin in the venous blood.

The spleen resembles a gland in many respects, but differs in having no excretory duct: hence it is necessary to examine the blood for an explanation of its use. The results of thirty-two experiments, in which blood was drawn from the splenic and from the jugular veins in living animals, and a comparative analysis made of the fluid from both these sources, shewed that the blood returning from the spleen invariably contains fewer corpuscles, more albumen, and rather more fibrin, than the blood in the jugular vein: hence the opinion that the spleen is the organ for the formation of blood-corpuscles is no longer tenable: it seems rather to be the site of their destruction.

Since the trunk of the portal vein is formed by the junction of the splenic with the superior mesenteric, it appeared to M. Béclard that, to obtain a correct analysis of the portal blood, the contents of the superior mesenteric should be examined previous to this vein being joined by the splenic; for the blood in the portal vein itself will be mingled with that from the spleen. From many examinations of the blood of the superior mesenteric, he finds that, as a rule, the quantity of its albumen is considerably increased during the early period of digestive absorption, while in the latter periods of this absorption the quantity of corpuscles is greatly increased. He did not find that the proportion of fatty matter was ever greater in the blood of the superior mesenteric vein than in that of the rest of the venous system—an observation which makes it probable that nearly all the fatty matter removed from the contents of the intestinal canal is taken up by the lacteals, and very little, if any, by the blood-vessels.—*Comptes Rendus*, 1848. A

HINTS TO PRESCRIBERS ON THE NECESSITY OF WRITING THE DIRECTIONS FOR TAKING MEDICINES, IN ENGLISH. BY M. DONOVAN, ESQ. M.R.I.A.

As the new Dublin Pharmacopœia is to be published in English, its appearance will afford a proper opportunity for introducing what appears to me a very necessary reform in the prescriptions of medical practitioners. The subject to which I beg attention is the custom of *writing in the Latin language the directions for taking or applying the medicines prescribed.* What is the use of this?—why labour to conceal from the patient that which is written for no other purpose than that he may know it?

The disadvantages which attend the practice are numerous. The physician may, with great ease, write a direction in Latin which it is very difficult to convey in English, or which may admit of several interpretations; and it is unfair to fix on the apothecary the responsibility of conveying, in the brief compass of a label, the exact intention of the physician, in a language which the latter did not use. The responsibility of giving precise directions for the use of a medicine ought surely to fall on its prescriber.

I might rely on the obvious truth of this observation; yet it may not be amiss to give a few instances of Latin directions of common occurrence in prescriptions, which often lead to misconception, and which, notwithstanding their apparently trifling import, do occasionally cause great embarrassment to the apothecary.

One of the common nuisances in medical Latinity is the expression "pro re nata," which was once translated by a pharmaceutical *savant*, "for the newly-born infant." We often find that this direction is given for the exhibition of a medicine of no definable power. If a medicine have a particular and recognizable effect, such as an aperient, and is directed to be taken "pro re nata," the meaning cannot be mistaken. But when no well-marked and obvious operation can be discovered, which can be expressed as a title, written at the head of the lable, according to the custom of apothecaries, the "pro re nata" becomes a difficult phrase to translate, or to be understood by the patient, if translated. Suppose a mixture consisting of several nervous, antispasmodic, or anodyne medicines, is directed to be taken "pro re nata," it may be intended for many conditions or emergencies, not one of which the apothecary has been made acquainted with. How, then, is he to translate the direction? Several modes are technically made use of. One is, "to be taken occasionally." The patient, little the wiser, puzzles himself or the apothecary with questions about the interval between the doses; and he comes to the conclusion that "occasionally" means nothing, and perhaps he is not far from the truth. It may be supposed that the deficiency has been supplied by the prescriber in a private direction to the patient. I wish it were always so; all then would be right. Another translation often used is, "when necessary." The patient exclaims, "To be sure!—medicine is never taken but when it is necessary, but when is that?" Unless previously instructed, he is no judge of the intervals of pain, sickness, or suffering, at which it is safe to take his dose. A third translation, "as occasion may require," is liable to the same objection: neither the apothecary nor the patient may know what is the "occasion" meant. The blame of so vague a direction is sure to fall upon the apothecary; and hence the physician is bound, in common justice, to write in English the exact words which are to be copied on the label: the intention of the prescriber would thus be better fulfilled, and the apothecary relieved from a most embarrassing responsibility.

It is even a matter of some doubt if the words "pro re nata" ought to bear the import in which prescribers wish them to be understood. Cicero uses them in the sense of "under existing circumstances." Neither Facciolati nor Ainsworth give the modern acceptation as their translation.

If prescribers were obliged to write their directions in English, they would soon discover the difficulties under which they place the apothecary by the use of Latin words which have no corresponding English words in common use. Thus applications are directed to be made *faucibus internis*. What is to be written on the label? If the apothecary translate the words by the euphonic terms the *gorge*, or the *weasand*, the patient would not be much the wiser. When the application is to be made *faucibus externis*, the case is as bad; for there is no English word to express these parts accurately; neither *throat* nor *jaws* will suffice. Where the application is to be made *thoraci*, it may mean the chest, right breast, sides, or part of the back: which of these is meant? We find local remedies directed for the epigastric, hypogastric, umbilical, and hypochondriac regions: none of these parts can be designated in the compass of a label with anything like exactness. I have known a liniment directed to be applied *regioni laryngis*, and was much puzzled to contrive a label that would express the part, unless accompanied by a dissertation on animal topography. But the puzzle was much increased in another case, when the application was to be made to the abdomen of a lady: the "*lower* stomach," implying the existence of a second one, is a refinement which borders too much on the ridiculous.

There is nothing more common, in prescriptions, than the word "nocte," when it is intended that a medicine is to be taken or used *every* night. Now, nocte (by itself) does not necessarily mean every night: if nocte were an adverb, as *mane* is, or may be, then it would, as a qualifier of the action understood, signify every night; but it is a substantive, and cannot have the effect. In this uncertainty, the apothecary is bewildered; and is doubtful whether he should label the medicine to be taken "every night," or "this night:" he knows that if the latter were the sense intended, it should have been written, as it often is, hâc nocte; but the question with him is, did the prescriber enter into these minute considerations? It would be better to write "noctu" when every night is intended; for although the Roman writers sometimes used the word to express a particular night, it is always in that case conjoined with a limiting expression, and without this it is "night generally," or "every night." Thus, Sallust and Cicero say "noctu diuque."

An analogous error occurs in the use of the word "mane," which, being both an adverb and a substantive, may mean either "every morning," or less properly, "in the morning:" surely, in the latter, or indeed any case, the word should have some adjunct to free it from the equivoque.

But one of the worst of the errors of this class is the direction frequently given for a medicine that is to be taken every night, expressed in the prescription by "hora somni," as if the two words were taken adverbially. The apothecary has a right to interpret the expression literally, to be taken "at bed-time," meaning for that night only; but he is not warranted in directing the pill to be taken at "bed-time every night," yet that is what was intended by the prescriber.

Much inconvenience often arises from measuring medicines by spoon, the size of which varies much, according to the fancy of the proprietors. A tablespoon, in a medical sense, is the measure of half an ounce; but frequently it is capable of containing double that quantity. The same observation applies to other denominations of spoons. Aware of this source of inaccuracy, some physicians direct "an ounce," or some aliquot part of it, to be taken for a dose. If such a direction be written on the label, what will the patient think of the common sense of the apothecary?—and if it be not, what will the prescriber think of an apothecary who had directed "two tablespoonfuls" of a medicine, which on account of the size of the spoon, may possibly contain double the quantity of prussic acid, or laudanum, or black drop, that was intended? How, then, is the apothecary to act, unless he sent the patient a graduated measure, accompanied by a treatise on its marks.

Indeed the word cochleare is altogether

objectionable. I know not how it came to be used as the measure of a tablespoonful.[*] The only knowledge we possess of what was the measure of the Roman cochlear is derived from Rhemius Fannius, who informs us that cyathus is the twelfth part of a sextarius; and cochlear or cochleare is the fourth part of a cyathus. I have shown (MEDICAL PRESS, January 5th, 1848, p. 9), that the Roman sextarius contained 8743 troy grains, and therefore cochleare must be equal to 0·4 ounce, or about half the measure of many modern tablespoons. Viewing this measure, then, either derivatively or practically, it is not the proper representative of a tablespoonful: it leads to uncertainty in a case where accurracy is so necessary. Beside all this, every prescriber does not bear in mind that cochleare is a generic term which requires some specific adjunct to render it intelligible. I have known cochleare by itself to be used when a dessertspoonful was meant. Let the use be remembered that was made of the omission of the specific designation during the investigation of Dr. Cronin's case! Some sensible physicians direct a fourth or sixth part, as the case may be, to be taken at the proper intervals; this removes all ambiguity.[†]

The word "urgente" is another of the puzzlers which often occurs in prescriptions, and which cannot always be translated by a manageable word on a label. How is "urgente dolore" to be expressed? "when the pain is distressing" is sometimes written: is pain ever agreeable, or otherwise than distressing? Others write, "when the pain comes on;" but the pain may be persistent, and the prescriber may have meant when it becomes very great: yet, with the condition of the patient, the apothecary is supposed to be unacquainted.

In the case of "urgente rigore," which is sometimes written, a new difficulty occurs. We have no English word that exactly corresponds with the medical term *rigor:* shivering will not answer in all cases; and hence, in medical books, the Latin word itself is always used. The practitioner relieves himself easily from the embarrassment by throwing on the apothecary the difficulty of finding a word to express a condition of the body which required such an elaborate description as that given by Celus:—"In corporibus rigor est, cum membrum durescit, torpetque velut gelu adstrictum, et sensum amittit, et corrumpitur." Ainsworth translates rigor by a great stiff cold, hardness, roughness, stiffness, the cold of an ague: it is matter of taste which the apothecary, ignorant of the symptoms, shall select.

It is common to direct a dose of a medicine to be taken "pro re nata, urgente tussi." This may be merely a thoughtless pleonasm, meaning that the medicine is to be taken "when necessary, when the cough is troublesome;" or, as pro re nata literally means, "according as the thing happens or results," the interpretation might be given that the dose is to be frequent in proportion to the violence of the cough; or that it is to be taken "occasionally *while* the cough is urgent." How is the apothecary or patient to know what is meant, where words assume so metaphysical an aspect? Sometimes the direction is that the medicine is to be taken "subinde, urgente diarrhœa." Is it fair to use this word *subinde*, on the meaning of which whole dissertations have been written, in a prescription containing most probably laudanum? And if to this difficulty we add that of finding decent language in a very short compass, to express "urgente diarrhœa," it will be seen that the physician relieves himself of some difficulty by the expedient of throwing it on the apothecary, who is not in a condition to resolve it.

I could give many other instances, but the foregoing may suffice: they offer sufficient proofs of the inconvenience and utter inutility of writing directions in Latin, and it, n many cases, none of the best. It is due to the patient, as well as to the apothecary, that the direction should be in plain English: many an error would thus be avoided; and many an imputation on the apothecary spared. Several physicians, excellent classical scholars, have long felt the prudence of dispensing with the mystery of a Latin direction, and have given it in unmistakeable English, thus leaving to the apothecary the simple duty of transcribing it on his label. If the practice were universally adopted, it would certainly convey the intentions of the prescriber with more precision, because more directly to the patient; and tend to remove from the public mind the impression that physicians are not sufficiently explicit in their instructions for the exhibition of their remedies. — *Dublin Medical Press*, Aug. 1848.

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[*] I hope it is not descending too minutely into particulars, which some may deem trivial and out of place, to notice the spelling of this word in the plural number,—a word to be found in almost every label sent from an apothecary's establishment, and often the cause of animadversion. Through a mistaken refinement, it is written "tablespoonsful" by persons who consider "tablespoonfuls" a vulgarism. I believe the former to be erroneous, and the latter correct, for the following reasons. Although one of the institutions of the German language, it is foreign to English, and looks like a practical bull, to insert a plural *termination* in the *middle* of a word. We have also to consider that when two tablespoonfuls of a medicine are to be swallowed, we do not make use of two spoons, but one only: why, then, give to one spoon a plural termination? The expression in question is not to be considered as consisting of two separate words, by usage written together—viz., spoons full, but as one word; in proof of which I adduce the fact that "full," drops an l, and therefore cannot be the adjective "full," but is the latter member of a dissyllable. How ridiculous would it be to say that a person took "two mouthsful of anything;" he should first have two mouths.

[†] It is to be hoped that, in the new Pharmacopœia, definitions will be given of what physicians ought to mean when they write tablespoonful, dessert-spoonful, wineglassful,—all of them measures so uncertain and so differently understood.

⁂ There is much truth in these remarks. If the Latin language be retained for medicines there can be no good reason for employing it in the *directions:* while there are many strong reasons against its use for this purpose. Why make a druggist who may have no knowledge of Latin beyond the names of medicines, the translator of our meaning as to the mode in which a medicine is to be taken? The patient must have the directions sooner or later in English, and who is so qualified to write them as the prescriber himself? The ambiguities of the Latin language and the ignorance of druggists, have, owing to the present practice, given rise to numerous deplorable accidents. We have known an action brought upon the real meaning of the words "*si opussit;*" the physician complaining of the druggist for having put a wrong meaning to his words, when there was not the least necessity for his trusting to the dispenser's knowledge of the classics.

PARALYSIS PRODUCED BY ARSENIC.

Dr. Clark related to the New York Medical and Surgical Society the case of a young woman who, five months ago, took arsenic for the purpose of self-destruction. According to her own account, she purchased sixpence-worth, amounting to three table-spoonfuls, all of which she took. This was about 11 P.M. Warm water was given her, and vomiting produced. At 3 A.M. she was taken to the New York Hospital, where the stomach-pump was used, the hydrated sesquioxide of iron having probably been previously administered. She had afterwards some fever, but gradually became better. Eight days after taking the arsenic she was seized with severe pains in the upper and lower extremities. The parts were swollen, but neither red nor hot. Three days after this she lost almost entirely power over her extremities; she had since continued bed-ridden, and is now at Bellevue. She can move her arms freely, and can close and open her hands, but with no force. The feet are still paralysed, but she can bend the knees.—*New York Annalist*, and *Provincial Journal.*

ON THE MANAGEMENT OF STILL-BORN CHILDREN.

The management of suspended animation in new-born children is a subject so well understood; and the principles upon which it should be conducted are now so clearly recognised, as to render any lengthened observations thereon wholly unnecessary in a work like the present. The following short description, therefore, of the practice of the Hospital in this class of cases (not the least important or interesting to the accoucheur) is purely confined to practical details, especially such as relate to the use of the *stethoscope* and of *artificial respiration.*

When a child, immediately after its birth, exhibits none of the ordinary signs of vitality, such as respiratory efforts, or muscular contraction, the question will at once suggest itself, does life yet remain—is there still a possibility of restoring animation? We hesitate not to say that the most accurate information upon this point is to be derived from the stethoscopic examination of the heart, for we have seen very many children resuscitated with whom the *cardiac pulsations as detected by mediate auscultation,* had been the only proof of lingering vitality. What the effect of such evidence should be on the physician's conduct we need not at this moment stop to inquire; but it would undoubtedly prove a source of much encouragement under circumstances otherwise apparently hopeless, and at a time when he must be oppressed with the consciousness that the result of his endeavours is awaited with the most intense anxiety and solicitude. We have seen many infants restored to animation in whom respiration was for a long time suspended, yet we never saw a single instance where the slightest symptoms of vitality could be produced if the heart's pulsations had ceased to be audible when the child was born. It may be asserted, without fear of contradiction, that had the stethoscope been used, no such accident could ever have happened as a doctor ordering an infant to be removed as dead which afterwards recovered without any assistance. Let it not be supposed, from the preceding observations, that we would recommend any innovation upon the rule that resuscitation should *always* be attempted in the absence of the signs of decomposition; to the excellence of this precept we give our full concurrence.

Children labouring under suspended animation at the time of birth are found to present very different external appearances, which, it may be supposed, are regulated by the extent and kind of lesion the vital functions have sustained. Now we think that, setting aside physiological considerations, and looking solely to practice, all these cases may be conveniently arranged in two classes, whose characteristic features are drawn from the general condition of the infant. In the one case the child is pale and perfectly flaccid; the eyes are closed; there is complete relaxation of all the muscles; great flexibility of the joints; and the finger can be pressed into the pharynx without any opposition being felt. In this form, which we are inclined to think is, perhaps, the more dangerous of the two, the state of the child closely approximates to syncope, as there seems to be a failure or deficiency of the vital principle.

In the examples of the second class, the outward appearance of the child is totally different, and would seem to be the result of great cerebral congestion or apoplexy. The surface of the body is apparently swelled, and of a red or livid colour, and both these characters are most remarkable in the face and neck; the eyelids are generally apart, and the eye-balls prominent, with more or less injection of their conjunctival membrane. There is seldom that extreme mobility of the limbs and flaccid state of the muscles that we see in the former class of cases. This state of the fœtus was very apt to occur where the umbilical cord had tightly encircled the neck, or where the expulsion of the body did not take place for some time after the head.

Should the child not begin to breathe immediately after its birth, sprinkling the chest and face with cold water generally proved a most efficient means of stimulating the respiratory muscles, and exciting sensibility. This is a measure, however, which cannot be persisted in after the first or second trial, as it is of too depressing a nature; on this account, also, it is not well adapted to the cases included in our first class. It was, of course, an established rule not to sever the connection between the fœtus and placenta as long as the pulsations of the cord continued distinct. If the child presented an apoplectic appearance, some blood (ʒiij. or ʒiv.) was allowed to flow from the fœtal end of the funis after its division. This simple mode of depletion frequently produced the most beneficial effects, relieving the oppressed state of the nervous system, and being speedily followed by signs of increased sensibility. If a sufficient quantity of blood could not be procured from the funis, the application of a leech to the temple was frequently attended with marked advantage. When the cord was long enough to admit of it, the warm bath was sometimes employed before cutting it. Smartly slapping the chest or buttocks is often resorted to with advantage in mild cases where the suspension of animation is only partial; but it will not, we think, be found to answer any good purpose if the infant be in a low state of vitality. Ammonia applied to the nostrils is an excellent restorative if there be any attempts at inspiration, so that it can be inhaled, but otherwise it is of no use. These efforts of the child to breathe will be very much assisted by compressing the epigastrium and sides of the chest with the hands, so as to empty the lungs of the inspired air as effectually as possible. In the first instance, and before adopting other measures, it is of importance to rid the mouth of any mucus that might hinder the entrance of air by obstructing the glottis. For this purpose, Gardien recommends a pledget of lint dipped in a solution of common salt to be used. A flexible tube, with a pump attached to it, has also been employed; but we give the preference to the finger over every contrivance.

In every instance where the process of respiration was slow of being established, or very imperfect after two or more trials in the above restorative measures, artificial respiration was commenced, and continued, *with intermissions*, until the necessity for its further employment was superseded by the natural performance of the function, or until the gradual failure and cessation of the heart's action shewed that all attempts at recalling the vital principle might be relinquished. We have said "with intermissions," because it was generally thought advisable to suspend the process for a moment or two at intervals, just to see if the failure of the supply of air to the lungs would stimulate the child to make an effort at inspiration. A gum-elastic male catheter, of the full size (No. 9 or 10) was the instrument used on all occasions for inflating the lungs. The child was placed in a horizontal posture, with the neck considerably extended, and the head bent rather backwards; the catheter was passed a short way into the mouth, and the lips and nostrils were then kept closely compressed, at the same time that the larynx was gently pressed against the spine, so as to favour the ingress of air into the trachea, and to prevent or obstruct its transmission down the œsophagus. Alternately with the insufflation of the lungs, a slight degree of pressure was made on the epigastrium and ribs, with a view to assist expiration. There was great difficulty with some children in directing the current of air down the trachea, and keeping it from distending the stomach. This was avoided by placing a hand on the præcordial region, and altering the position of the head and larynx. During the process of inflation, which was repeated at short intervals in imitation of natural respiration, whenever the child made any attempt to breathe, the compression was instantly removed from the mouth and nose, in order to give every facility to the entrance of air. It was considered a point of importance, in blowing through the catheter, to do so in the manner of using the blow-pipe, namely, that the efforts should be made by the mouth and soft palate, and not by the chest; and consequently, that the air should come from the mouth, and not from the lungs of the operator. This mode of inflating the lungs of still-born children is, we conceive, open to fewer objections than any other. In the first place, the degree of force with which the air is propelled can be carefully regulated: secondly, its temperature is raised before entering the chest of the infant: thirdly, in quality it is little, if at all, removed from pure atmospheric air; and, lastly, no injury can possibly be inflicted on the soft parts within the mouth of the child. From our experience of this measure we must speak of its utility in terms of the strongest commendation, as we never could trace any evil effects from its employment, whilst in very many instances we have had every reason to believe that the child's life was preserved by its means.

The artificial respiration very constantly accelerated the action of the heart, where this was at all pulsating at the time of commencing the process; but we never observed that it restored in the least degree the cardiac movements after these had ceased to be perceptible. The recovery of the child did not, by any means, follow as a consequence of this improvement in the heart's functions; for, on many occasions, we have known the pulse to double its rapidity under the employment of this agent, but as soon as its use was suspended, the velocity of the circulation would quickly diminish, again to become raised on inflating the lungs; and thus we have seen matters go on alternating for two hours or upwards, and yet the great object of our exertions not be ultimately attained.

When, however, this increased frequency of the pulse is accompanied by other indications of vitality, such as restoration of the natural colour to the surface, the efforts at respiration recurring at shorter intervals and with more strength, signs of muscular irritability in the limbs and face, &c., we may calculate, with tolerable certainty, upon a successful issue to the case.

The artificial process was generally left off as soon as natural respiration was at all established, or at least sufficiently so to maintain the heart's function in that state of activity to which it had been raised by the temporary expedient of inflating the lungs. As resuscitation can seldom be considered complete and satisfactory until the infant breathes naturally, or cries aloud, it was often necessary to proceed with the employment of restorative and invigorating remedies for some time after the discontinuance of artificial respiration. As soon as the child could swallow, small quantities of white-wine whey were given from time to time; or if it seemed very languid and feeble, a small enema containing a few drops of the fetid or aromatic spirit of ammonia was administered. But by far the most important point in the management of these weakly, delicate infants, or of such as are in a similar condition from having been born prematurely, is to support the temperature of their bodies by artificial means. For this purpose nothing answers so well as cotton wadding, being softer and warmer than flannel or any of the materials ordinarily used in the clothing of children.—*M'Clintock and Hardy's Practical Observations* (pp. 355—360).

ON THE DIAGNOSIS OF ANEURISM OF THE THORACIC AORTA. BY DR. BELLINGHAM.

THE difficulty of the diagnosis of aneurism of the aorta has been a frequent theme of writers, and not a little that has been published has tended rather to increase than to diminish this difficulty. This is owing partly to writers upon thoracic aneurism taking too limited and contracted a view of the subject, as if one symptom or one set of symptoms belonged exclusively to aneurism in this situation: and partly to the erroneous views of previous authors, which have been adopted without proof, and propagated without consideration by succeeding writers;—such as that an aneurism of this artery is always accompanied by a loud single bruit de soufflet, or that the arbitrary varieties of aneurism which systematic writers have made are characterized by a distinct class of symptoms. The fact is, that bruit de soufflet, instead of constituting a constant auscultatory sign of aneurism of the arch of the aorta, is never heard in the majority of cases; and, instead of a single sound being characteristic of aneurism of this part of the vessel, a double sound is the rule, and a single sound the exception; while, whether the aneurismal sac is formed by all the coats of the artery, or by the external alone, after the rupture of the internal and middle, will make no difference in the symptoms. The symptoms of aneurism of this vessel are not the result of the changes which the arterial tissues undergo; but they are the result of the compression, distension, stretching, and displacement of important organs or parts, or of the disturbance of function of vital organs in the vicinity of the aneurismal sac; and the growth of any other tumor in the same situation would give rise to pretty nearly the same local and general symptoms. —*Dublin Medical Press.*

BIRTHS & DEATHS IN THE METROPOLIS

During the week ending Saturday, Aug. 26.

BIRTHS.		DEATHS.		*Av. of 5 Sum.*	
Males....	663	Males....	486	Males....	495
Females..	662	Females..	465	Females..	477
	1325		951		972

(34 *in number;—Registrars' Districts*, 129. *Population, in* 1841, 1,915,104.)

WEST—Kensington; Chelsea; St. George, Hanover Square; Westminster; St. Martin in the Fields; St. James .. (Pop. 301,326)	155
NORTH—St. Marylebone; St. Pancras; Islington; Hackney ...... (Pop. 366,303)	186
CENTRAL—St. Giles and St. George; Strand; Holborn; Clerkenwell; St. Luke; East London; West London; the City of London ....(Pop. 374,759)	161
EAST—Shoreditch; Bethnal Green; Whitechapel; St. George in the East; Stepney; Poplar ....(Pop. 393,247)	189
SOUTH—St. Saviour; St. Olave; Bermondsey; St. George, Southwark; Newington; Lambeth; Wandsworth and Clapham; Camberwell; Rotherhithe; Greenwich ....(Pop. 479,469)	260
Total	951

CAUSES OF DEATH.		Av. of 5 Sum.
ALL CAUSES	951	972
SPECIFIED CAUSES..............	943	968
1. *Zymotic* (or Epidemic, Endemic, Contagious) *Diseases* ..	363	257
Sporadic Diseases, viz.—		
2. Dropsy, Cancer, &c. of uncertain seat	47	45
3. Brain, Spinal Marrow, Nerves, and Senses	97	120
4. Lungs and other Organs of Respiration	76	80
5. Heart and Bloodvessels	31	28
6. Stomach, Liver, and other Organs of Digestion	61	79
7. Diseases of the Kidneys, &c...	10	8
8. Childbirth, Diseases of the Uterus, &c.	10	10
9. Rhematism, Diseases of the Bones, Joints, &c.	3	7
10. Skin, Cellular Tissue, &c.......	1	1
11. Old Age	28	50
12. Violence, Privation, Cold, and Intemperance	29	8

The following is a selection of the numbers of Deaths from the most important special causes:

Small-pox	32	Paralysis........	18
Measles	6	Convulsions	26
Scarlatina	102	Bronchitis	30
Hooping-cough..	23	Pneumonia......	30
Diarrhœa	63	Phthisis	137
Cholera	7	Dis. of Lungs, &c.	10
Typhus	87	Teething	9
Dropsy..........	14	Dis. Stomach, &c.	8
Sudden deaths ..	7	Dis. of Liver, &c.	5
Hydrocephalus..	17	Childbirth	4
Apoplexy........	20	Dis. of Uterus, &c.	6

REMARKS.—The total number of deaths was 21 *below* the weekly summer average.

METEOROLOGICAL SUMMARY.

Mean Height of Barometer				29·68
" " Thermometer[a]				57·7
Self-registering do.[b]	max.	88·7	min.	33·5
" in the Thames water	—	62·6	—	59·8

[a] From 12 observations daily. [b] Sun.

RAIN, in inches, 0·66: sum of the daily observations taken at 9 o'clock.

Meteorological.—The mean temperature of the week was about4 below the mean of the month.

BOOKS RECEIVED DURING THE WEEK.

System der Physiologie, von Carl Gustav Carus. 5tes Heft.

Journal de Pharmacie et de Chimie. Août 1848.

Address to the Graduates of the University of London.

An Inquiry into the Proximate Cause of Gout, and its rational Treatment. By Anthony White, M.B. &c.

Report of the Council of the National Institute of General Practitioners in Medicine, Surgery, and Midwifery, on the Present State of the Medical Reform Question.

The British American Journal of Medical and Physical Science. Edited by Archibald Hall, M.D. &c. Montreal, August 1848.

NOTICES TO CORRESPONDENTS.

RECEIVED.—Mr. J. R. Hancorn.—Mr. Thomas Martin.

ERRATUM.—In our last No. page 326, col. 2, line 23, from the top, for Sp. Amm. Arom. "f℥ij." read "f ʒij."

THE GENERAL INDEX.

We have to announce to our Subscribers that a GENERAL INDEX to the *first* 40 *Volumes* of the LONDON MEDICAL GAZETTE will, it is calculated, form a large Volume of about 700 pages. The cost of the INDEX VOLUME, respecting which many inquiries have been made, will be Twenty-four Shillings; and it is proposed to commence it so soon as the Names of *Five Hundred Subscribers* have been obtained.—The printers, Messrs. WILSON AND OGILVY, 57, Skinner Street, will receive the Names of Subscribers.

Lectures.

CHEMISTRY AND THE MICROSCOPE
IN RELATION TO [redacted]
PRACTICAL MEDICINE.

By George E. Day, M.A. & L. M. Cantab.

Fellow of the Royal College of Physicians, Lecturer on Animal Chemistry and Histology at the Middlesex Hospital School, and Physician to the Western General Dispensary.

Lecture IX.

The pabulum of the blood—the chyle—its physical, chemical, and microscopical characters—the lymph—its physical, chemical, and microscopical characters—identity of lymph and chyle corpuscles—literature of the subject—leading divisions in the consideration of the blood—difference between living and coagulated blood — its odour — temperature — specific gravity—mode of determining its amount—its microscopic characters—effect of different reagents on the red corpuscles.

To-day, gentlemen, we proceed to the blood,—a subject of such vast extent in its general bearings, that I hardly know where we had better break ground. In speaking of the blood, I shall endeavour to confine myself as much as possible to points of practical utility in reference to the science of medicine, and shall not attempt to enter into the general physiology of the subject farther than seems absolutely necessary. As, however, some of you may wish to enter more at length into certain portions of the history of the fluid, I have noted down, and shall, when necessary, refer to the works and memoirs in which you will find most of the information we possess regarding it.

I have invariably assumed, that you are well acquainted with the ordinary principles of physiology. Let me call your attention for a few minutes to the consideration of the process of nutritive absorption. Animals for the most part derive their nourishment from the external world by means of the lacteals and venous system. We will not stop to inquire the relative parts that these two systems take in this process, as we have no present occasion to advert to venous absorption. But it is not from the external world alone that animals derive their nourishment. During the continuous decomposition that is going on in the living body, certain materials fit for nutrition are continuously liberated, and in the lymphatic system we find an especial provision for their re-introduction to the circulating fluid.

I propose to notice the fluids of the lacteal and lymphatic systems—the pabulum of the blood—before proceeding to the blood itself.

The *chyle*, when obtained in a state of purity—that is to say, when taken from an animal killed while the process of digestion is going on, is an opalescent, somewhat viscid fluid. The opalescent or milky appearance is more marked in carnivorous than herbivorous animals; and in the latter the degree of turbidity seems in some degree proportional to the amount of fat taken in the food. It has been stated to possess a seminal odour, but Gerlach, who has carefully examined this fluid in dogs and rabbits, observes that it is devoid of odour, and that it has a saline and slightly sweet taste. He collected the chyle from the vessels of the mesentery, and found that it did not coagulate, that it was generally neutral, but occasionally alkaline. It is much to be regretted that he did not obtain a sufficient quantity for analysis, for the analyses at present on record, are made with the fluid taken from the thoracic duct, which is a mixture of lymph and chyle.

This mixed chyle possesses the property of slightly coagulating, and usually exhibits a pink tint. While the former contains only albumen, fat, salts, extractive matters, and water, the latter contains also traces of fibrine.*

On examining fresh chyle obtained by Gerlach's method, we may easily convince ourselves that its opalescence or turbidity is dependent on the presence of minute particles suspended in it, which, when examined under the microscope, present a lively molecular motion.

These particles are so minute as to present no definite shape, even under very high powers.† They are soluble in ether; and hence, on the addition of this reagent, the chyle becomes perfectly clear. Acetic acid, very carefully added, separates a few delicate flocculi, which redissolve in a slight excess of the acid. Hence we have chemical evidence that the particles in suspension consist of fatty matter; and further, that the chyle contains a protein-compound in solution.

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* As a general rule, I have endeavoured to exclude, as far as possible, the numerical results of analyses, and to confine myself to the legitimate conclusions that may be deduced from them. Those who wish to refer to the recorded analyses, will find them in the English translation of Simon's "Animal Chemistry;" in my various "Reports," in Ranking's "Half-yearly abstract of the Medical Sciences;" and in Dr. Garrod's lectures now publishing in the "Lancet." If any of the readers of the Medical Gazette should trace a peculiar similarity between some of my lectures and those of Dr. Garrod, I would venture to plead, that I have at least an equal right with that gentleman to make use of my previous labours.

† They constitute the *molecular base* in Mr. Gulliver's description. See his "Observations on the Chyle, &c.," in his additions to Gerber's "General Anatomy."

Fat, however, exist in the chyle as globules, as well as in the granular form. It is not, however, so abundant as is generally supposed. H. Müller frequently obtained chyle without any fat-globules; and he believes that in the more minute lacteals none are present. Their presence and number very likely depend, as I have already mentioned, on the nature of the food—that is to say, on the proportion of the fat to the protein-compounds.

Elementary granules constitute another and a very important element of the chyle. They may be distinguished from fat-globules by their small size, and by their collecting in groups without fusing into a single particle.

These elementary granules, whether occurring in the chyle or elsewhere, may be regarded as representing the earliest stage of the process of organization. They vary in diameter from $\frac{1}{20000}$ to $\frac{1}{10000}$ of an inch; and there is reason to believe that they consist of very finely comminuted particles of fat invested in a capsule consisting of a protein compound; at least, we can artificially give rise to a very similar appearance, by mixing oil with an albuminous fluid, when the latter forms a membrane around the minute vesicles of the former. (See Lecture VII. p. 140). These elementary granules exhibit a strong attraction towards one another, three or more of them forming minute aggregate masses, and being apparently held together by a viscid substance, consisting probably of a protein-compound.

These aggregate masses constitute the *chyle-corpuscles*. They have a slightly granular appearance, an indistinct border, and are of a roundish or somewhat elongated form, with more or less distinct lateral projections. The size of these chyle corpuscles varied in the dogs and rabbits examined by Gerlach, from $\frac{1}{5000}$th to $\frac{1}{1700}$th of an inch, whilst they have been estimated by Valentine at about $\frac{1}{2000}$th of an inch in the human subject. There is often a considerable difference in the size of these bodies, even in the same animals. The smaller ones are usually most frequently met with in the lacteals of the mesentery lying nearest to the intestine; whilst the larger ones are more numerous, after the passage of the chyle through the mesenteric glands, and appear, then, not only to increase in number, but also in regularity of form.

On adding water to a drop of chyle, and examining it microscopically, the corpuscles appear at first to swell, and to become rounded in form; a further effect of this reagent is to produce among the greater number a separation into two parts, consisting in most cases of a granular roundish nucleus, and a transparent capsule.

This separation into the nucleus and capsule is not produced in all chyle-corpuscles by the action of water. Indeed, the corpuscles of chyle which have not passed through the mesenteric glands seldom present this appearance to the full degree.

Acetic acid renders the chyle-corpuscles more distinct, and their outlines sharper; at the same time it gives them a more angular shape. The separate granules become more obvious, and the corpuscle itself smaller, and, as it were, shrunken.

The addition of dilute caustic potash renders the chyle-corpuscles at first indistinct, and finally causes their complete disappearance.

The best microscopic observers agree in regarding the chyle-corpuscles as cells in the act of development. The fluid with the finely granular precipitate of fat is the blastema, from which, in conformity with the ordinary laws of cell-development, elementary granules are formed, which, by their union, give rise to the aggregate masses which seem in this case to contain the nucleus and capsule of the new cell. It is difficult to make out the exact period at which the cell-wall is formed; but, as we meet with the greatest number of aggregate masses devoid of a cell-wall in the chyle which has not yet passed through the mesenteric glands, we may fairly conceive that these glands are in some way connected with the production of that portion of the cell. They probably act by affording time for the elements of the chyle to become more highly organized and further developed; for not only have all the corpuscles, in the chyle that has passed these glands, got cell-walls, but they likewise appear more numerous.

We proceed to a closely allied fluid—*the lymph*. Regarding its physical properties, we may say that it is a slightly opalescent fluid, having a faintly yellow tint. Lymph taken from the spleen is of a pale pink colour, but this is owing to its admixture with red blood-corpuscles.

Fresh lymph is devoid of odour, and is reported to have a faint sickly taste. There are some things in animal chemistry it is just as well to take on credit; and tasting the different fluids of the body in health and disease is one of them.

On allowing lymph to stand for ten minutes or a quarter of an hour, it separates into a soft gelatinous clot, which partially sinks, and a slightly yellow supernatant fluid.

The lymph has a decidedly alkaline reaction. The following are the principal points in which it differs from the chyle:—It contains less fat, less albumen, and more fibrin: indeed, it seems very doubtful whether pure chyle contains any fibrin.

With regard to its microscopic elements, except that it does not contain the finely granular precipitate and the fat-globules, it presents the same forms as the chyle; that is to say, it contains elementary granules, and the aggregate masses formed by their union, and corpuscles precisely identical with those which I have described as separating, under the influence of water, into a nucleus and a capsule. These microscopic elements are, however, less abundant in the lymph than in the chyle.

Water and all other reagents seem to react in precisely the same manner on lymph and chyle-corpuscles, and it is most probable that they play the same part in the animal economy.

I have entered at some length into the consideration of these fluids, because they have an important bearing on the production of the blood. For analyses of the chyle and lymph, and for further information regarding them, I may refer you to the following works and memoirs:—

(1). Tiedemann und Gmelin, die Verdauung, nach Versuchen.

(2). Gulliver's Additions to the translation of Gerber's General Anatomy.

(3). Simon's Animal Chemistry. Vol. 1, pp. 350-359.

(4). Nasse. The articles "Chylus" and "Lymphe," in Wagner's Handworterbuch der Physiologie.

(5). Herbst, das Lymphgefässystem und seine Verrichtung.

(6). Valentin's Lehrbuch der Physiologie des Menschen. 2nd ed. Vol. 1, p. 401, &c.

(7). H. Müller, Beiträge zur Morphologie des Chylus und Eiters, in Henle u. Pfeufer's Zeitschrift für rationelle Medizin. 1845.

(8). Gerlach, Handbuch der allgemeinen und speciellen Gewebelehre des menschlichen Körpers, pp. 20-28.

From these prefatory remarks on the chyle and lymph, we proceed to the consideration of the *blood.*

The following table will give you a tolerably clear idea of the plan I propose to follow in the consideration of this fluid.

We shall consider—

I. *The physical and microscopical characters of the blood previously to its coagulation.*

II. *The process of coagulation, and its results.*

III. *The chemical composition of healthy venous blood.*

IV. *The general physiology of the blood, embracing its differences in different vessels, the changes it undergoes in respiration, and its general metamorphoses.*

We shall treat of these points with great brevity.

Having made ourselves well acquainted with the characters of healthy blood, we shall be better enabled to grapple successfully with the greater difficulties presented by the study of the blood in its various morbid conditions.

I. There is not much that need detain us in the consideration of the physical and microscopical characters of the blood, because your attention has already been to a certain degree directed to them in another course.

The blood, while moving in the living body, consists of a nearly colourless fluid, in which blood-corpuscles are swimming; in consequence, however, of these corpuscles being too minute to be distinguished by the naked eye, it appears among the higher classes of animals as an opaque and intensely red homogeneous fluid. But when the blood has been drawn from the body, and is allowed to remain at rest, a spontaneous coagulation takes place, and the blood separates into the clot or crassamentum, and the serum. The clot is composed of a network of fibrin, in whose meshes the corpuscles are retained.

Hence, living blood consists of corpuscles + the fluid in which they swim, and which we term liquor sanguinis or plasma; while coagulated blood consists of the clot + the serum in which it swims. The following scheme will, perhaps, render this statement clearer:—

$$\begin{array}{lcl}\begin{array}{c}\text{Living}\\ \text{Blood}\end{array} = \left\{\begin{array}{l}\text{Corpuscles}\\ \text{Liquor sang.}\end{array}\right. & = & \begin{array}{l}\text{Corpuscles}\\ \left\{\begin{array}{l}\text{Fibrin}\\ \text{Serum}\end{array}\right.\end{array}\\ \begin{array}{c}\text{Coagul.}\\ \text{Blood}\end{array} = \left\{\begin{array}{l}\text{Clot}\\ \text{Serum}\end{array}\right. & = & \begin{array}{l}\left\{\begin{array}{l}\text{Corpuscles}\\ \text{Fibrin}\end{array}\right.\\ \text{Serum}\end{array}\end{array}$$

When speaking in this and the following lectures of the blood, I wish you always to understand that I mean venous blood; unless, of course, I specially state the contrary.

The blood, as it flows from the body during the operation of venesection, may be described as a somewhat viscid fluid of a dark red colour. It develops a peculiar odour (the *aura* or *halitus* of the blood), which you will have no difficulty in recognising after having once observed it, but which it is impossible to describe satisfactorily. It is stronger in men than in women, and in robust than in weak persons. It is stated to be very strong in the blood of negroes, and very faint in that of eunuchs. Barruel, a French chemist, maintains that the odour is much more powerfully evolved on the addition of sulphuric acid; and he has even gone so far as to assert that in medico-legal cases he can by this means determine the origin of a spot of dried blood—whether it was human blood, or the blood of a beast, and, indeed, whether it arose from man, woman, or child. The odour developed by sulphuric acid affords a fair secondary test, but can never be relied on as our sole evidence. The acid made use of must not be very strong; it probably acts by combining with soda and liberating a volatile fatty acid.

The temperature of the blood is probably a little higher than that of any of the solids of the body. It may be put down on an average at about 99° or 100°. Simon found that blood issuing from the aorta of an ox had a temperature of 103°, and that in similar blood from a pig it was 99°·5. The temperature of arterial blood is usually nearly 2° higher than that of venous blood.

The specific gravity fluctuates between 1050 and 1059, and is usually higher in man than in woman; in fact, we may say that, in a state of health, it is always above 1053 in man, while in woman it is frequently not above 1050.

Its quantity in the adult human subject has been very variously estimated. I am inclined to think that it generally lies between twenty-four and thirty pounds. Various means have been adopted to determine this question, two or three of which I may mention to you. Valentin abstracted a certain quantity of blood from an animal, and ascertained the relative proportion of water in it. He then injected into its veins a known quantity of water, and again abstracted blood, and determined the relative quantity of water in it. By comparing the proportion of water contained in the second blood with that contained in the first blood, he was obviously enabled to calculate the quantity of blood with which the water that he injected must have mixed.

Vogel recommends that the vessels of the dead body should be injected with pure water, so that all the hæmato-globulin may be obtained, from which the total amount of blood may be calculated; and Weiss has recently suggested that the iron obtained on the incineration of the body might serve the same purpose. All these methods are, however, open to serious objections.

Of the microscopic characters of the blood I need say little. You doubtless recollect that there are two distinct kinds of blood-corpuscles swimming in the liquor sanguinis: namely, the red corpuscles, and the white, colourless, or lymph corpuscles. The former, when viewed under the microscope, are seen to be of a yellow colour, and in man, and the mammalia (with one or two trifling exceptions) of a circular form, but compressed laterally so as to present a discoid appearance. The latter are fewer in number, and if the blood that is being examined is still circulating in the vessels, they are seen close to the walls, and moving forwards with much less rapidity than the central current of the so-called red corpuscles. They are round, of a finely granular appearance, and are generally rather larger than the red corpuscles, from which they may be distinguished by their want of colour, their almost perfect sphericity, and their granular appearance.

The red corpuscles are about $\frac{1}{3000}$ of an inch in diameter. They consist of a capsule or cell-wall, consisting of globulin (see Lecture II. p. 365), and fluid contents consisting of hæmatin and globulin in a state of solution. The capsule is highly elastic, and in this respect the red corpuscles differ widely from the colourless ones, which do not yield to pressure without bursting. No nucleus can be observed in human blood-corpuscles.

Much stress has been laid on alterations in the form of corpuscles in different diseases; but as these differences for the most part depend on the specific gravity of the fluid in which they are swimming, in accordance with the laws of endosmosis and exosmosis, they must be regarded as secondary to the altered condition of the surrounding liquid.

I shall briefly notice the action of certain reagents on the blood-corpuscles. Some of these reagents act simply in accordance with physical laws, but most of them exert a chemical influence. It is only during very recent times that the effects of chemical reagents on microscopic objects have, to any extent, been observed. It is, however, a most important study. It is the most subtle anatomy.

The effect of water on the blood-corpuscles is very striking, and is easily seen under the miscroscope. They are observed almost instantaneously to swell; they lose their distinct contour, and if there is an abundance of water they altogether disappear. If, however, the blood-corpuscles have nuclei of sufficient magnitude to admit of examination (as in the blood of fishes, reptiles, &c.), these nuclei will be seen swimming in the water after the disappearance of the capsules.

If, upon the addition of water, the blood-corpuscles have swollen to such a degree as to be imperceptible, from their tenuity and loss of colour, under the microscope, they may be restored to their pristine form by the addition of sugar, of common salt, of nitrate of potash, or nitrate of ammonia. Schultz explains this phenomenon by supposing that the capsule of the blood corpuscle is an organic structure, which is stimulated to contraction by the above solutions, but which is relaxed or expanded by water; there is, however, no necessity for hypotheses of this kind, as the phenomena we have described can be sufficiently accounted for by the ordinary laws of endosmosis: for, as a general rule, the corpuscles are seen to swell in solutions less dense than the serum, and to contract in those of greater density.

In examining the action of water, and indeed of any reagent, on the blood-corpuscles, we usually find that, although the effect on the different corpuscles is similar in kind, it is very unequal in intensity. This difference is probably connected with the different ages of the corpuscles acted on. We shall proceed with this subject in our next lecture.

COURSE OF SURGERY,

Delivered in the years 1846 *and* 1847,

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Lecture XXXVII.

HERNIA.

Definition.—Hernia may proceed from any of the natural cavities—Hernia of the brain—of the lungs—Classification—Case—Diagnosis—Prognosis—Treatment—Abdominal herniæ—Classification—frequency of herniæ—coverings of abdominal hernia—Intrinsic and extrinsic Species of hernia—Inguinal—Varieties of Femoral hernia—Umbilical hernia—Ventral hernia—Obturator hernia—Ischiatic hernia—Perineal hernia—Vaginal and pudendal herniæ. Contents of herniæ—Diagnosis from symptoms—Hernia of the bladder. Causes of hernia—predisposing and exciting. Form of a hernial tumor. Conditions of herniæ—reducible, irreducible, and strangulated. Reducible hernia—Taxis—Treatment—"reduction en bloc"—operations—case. Irreducible hernia—symptoms—obstruction of a hernia—treatment—operation. Conversion of irreducible into reducible hernia—case—mode of treatment of irreducible hernia.

The protrusion of any viscus from its natural cavity is termed a hernia; and as the human body is divided into three distinct cavities,—that of the cranium, the chest, and the abdomen,—each of which contains its appropriate viscera, a hernia may occur in connection with either of these through the escape of any portion of the organs they contain. Owing to the solidity and continuity of the parietes of the cranium, protrusion can, however, only occur as the result of malformation or fracture of those bones; the parietes of the chest also consist, in a great measure, of bone, and the viscera contained within this cavity are so firmly fixed by their investing membranes, that they are but little liable to protrusion: but hernial protrusions of the viscera of the chest do occasionally happen, and M. Morell-Lavallée has written an excellent monograph upon this subject. He has divided hernia of the lungs into four classes, viz. congenital, traumatic, consecutive, and spontaneous. Of congenital hernia of the lungs only one case is recorded, and that was not observed until after death; it was discovered by Cruveilhier in the body of an infant who was the subject of spina bifida. *Traumatic hernia* is occasionally met with, and is produced by a sword-thrust, or some similar cause; *consecutive hernia* follows as the result of rupture of a portion of the parietes of the thorax; and *spontaneous hernia* is that in which the protrusion occurs through any natural outlet from the thorax, but is most frequently met with in the intercostal spaces, where it is indeed always liable to be produced in cases of abdominal weakness of the parietes, whether that be congenital or the consequence of disease. M. Morell-Lavallée also states that hernia of the lungs may take place in subjects in whom local debility arises from some cause. The following case is quoted in illustration: "An officer of the French army in Spain, was seized, without any apparent cause, with a violent and distressing paroxysmal cough, accompanied by pain in the left hypochondriac region. In the course of a few days a tumor, as large as an egg, appeared at the left side of the chest: the tumor was increased in size during inspiration, diminished during expiration, and completely disappeared under pressure. Rest, regimen, and the application of a compress, so far overcame the affection as to enable him to return to his duties; but he was not free from uneasiness in the side, and was obliged to support it whenever he took much exercise. The cough returned again in a year after the first attack, and the tumor appeared this time on the right side of the thorax. These tumors required, during coughing, a considerable pressure; and after their reduction apertures could be felt, which seemed to result from the rupture of the intercostal muscles." A hernia of the lungs is generally formed in the anterior part of the chest, and is sometimes of very considerable size: if it be slowly formed, it obtains a covering from the pleura; and even should the protrusion take place suddenly, it often afterwards becomes enveloped in an adventitious serous membrane. The protruded part is sometimes very highly congested, so much so, indeed, as to give rise to the idea that it has become gangrenous, inducing its removal instead of returning it into its proper cavity. The consecutive hernia usually appears gradually, and without pain; but the spontaneous may form much more suddenly and with more pain at first: and as these forms of hernia progress, they may either of them give rise to very serious suffering. Spontaneous hernia is sometimes very small at first, but its size increases, particularly during a fit of coughing. A modification of this hernia sometimes exists, which is termed intermittent, as little or nothing of the tumor is perceptible, except during forcible expiration.

The diagnosis in *thoracic hernia* is sometimes rather difficult, as tumors in this region, arising from other causes, may readily be mistaken for it. A patient under the care of Dr. Hughes in Guy's Hospital, who was the subject of a pulmonary affection, had a swelling on the right side of his neck, which distended upon coughing, and led to the supposition, among some of the medical attendants of the institution, that it was a hernia of the apex of the lung. Although the usual crepitation of an emphysematous tumor was but very indistinct, if at all appreciable, Dr. Hughes himself considered it a dilated vein; by another it was thought to be chronic abscess; I myself was of opinion that it was a sero-cyst or hydrocele of the neck. The patient died of phthisis; and thus an opportunity was obtained for post-mortem examination; when it was found that there was a dilated internal jugular vein, in consequence of an obstruction to the return of its blood, resulting from adhesions of the pleura, which interfered with the passage of the reflux blood into the vena innominata. There was also found a considerable sized cyst connected with the thyroid gland. A non-reducible tumor could not, however, be easily mistaken for the hernia, unless it were placed in a situation in which it would sink during inspiration, as in the supra-clavicular space, in which case error might arise. A case has been described in which an abscess appeared between the false ribs and the xyphoid cartilage, and was believed to be a hernia; but the fluctuation and dulness on percussion would be generally sufficient to distinguish such a case.

The prognosis in this description of hernia does not appear to be very unfavourable, judging by the result in the comparatively few cases that are known.

The treatment of consecutive and spontaneous hernia is very simple: after the tumor has been reduced, a bandage, with a compress, is placed firmly over it; and in this way Velpeau has effected a permanent cure in six days.

Notwithstanding this account of the herniæ to which the viscera of the chest are liable, it is to the protrusions of the abdominal viscera that surgical aid is so much more frequently required, and they therefore demand our more particular attention.

Abdominal herniæ are very frequent, in consequence of the number of natural outlets or perforations for the transmission of blood-vessels and nerves. The species to which a hernia belongs is determined by the particular region in which the viscus makes its escape. Moreover, there are many peculiarities attendant upon this condition which render necessary the subdivision of each species into varieties: the following table, which I have taken from my friend Mr. Teale's excellent treatise on hernia, exhibits, at one view, a very convenient and correct classification of the subject:—

Genus.	Subgenera.	Species.	Varieties.
Hernia	Cranial		
	Thoracic		
	Abdominal	Inguinal	Oblique Inguinal Hernia Hernia of the Tunica Vaginalis Direct Inguinal Hernia
		Femoral	
		Umbilical	
		Ventral	
		Obturator	
		Ischiatic	
		Perineal	
		Pudendal	
		Vaginal	
		Diaphragmatic	

I have already stated that the internal portion of the walls of the abdomen is formed by the internal abdominal fascia, which prolongs itself with every structure issuing, either naturally or abnormally, from the cavity; and that the tendons of the abdominal muscles are furnished, at certain points, with apertures to permit of the passage of blood-vessels, nerves, absorbents, and excretory ducts essential to the organization and functions of distant parts. These apertures tend to diminish the power of resistance which the walls of the abdomen elsewhere offer to the escape of the internal viscera.

Besides the internal fascia, there exists a superficial or external abdominal fascia, composed of a somewhat elastic tissue; this structure adds to the strength of the walls through which the natural outlets pass, and tends to preclude the liability to frequent hernia. After all, however, this affection is one of common occurrence, so much so that statistical information shows that every tenth person is subject to it under one or other of its varieties.

In addition to the two fascia, the abdomen is lined by peritoneum; the viscera are also covered by this splanchnic membrane: and therefore it may be said that every hernia is furnished with three coverings; and although there are two or three exceptions with respect to the peritoneal covering, these exceptions do not impoverish the general fact. These three coverings may be termed the intrinsic coverings of a hernia; while others which differ according to the locality in which the protrusion occurs, may correctly be styled its extrinsic coverings.

A protruded viscus can therefore scarcely be described as being out of the abdomen, but that that cavity itself has been prolonged beyond its natural limits; a condition precisely similar to that of the testicle in its normal state, which brings with it, in its descent from the abdomen into the scrotum, an investment of peritoneum, covered by internal and external abdominal fascia.

The various species of hernia derive their names from the natural outlets by which they issue from the abdomen. I shall mention them in the order in which they most frequently occur.

Inguinal hernia is so termed from the region of the abdomen at which the protrusion takes place, viz. through the opening of the internal abdominal fascia into the inguinal canal; through the same space, indeed, by which the testicle had previously descended from the lumbar region of the abdomen into the scrotum. Inguinal hernia is especially liable to varieties.

Femoral hernia.—A protrusion is termed a femoral hernia when the intestine has escaped from the abdomen into the prolongation of the internal abdominal fascia which covers the femoral vessels, and constitutes what is termed their sheath. The protruded intestine does not, however, pass down either with the artery or vein, but quite on the inner side in that division of the sheath which encloses the absorbent vessels.

Umbilical hernia.—This is a protrusion at the navel, which outlet is differently constituted from any of the others already mentioned; for although soon after the division of the umbilical cord, the opening is closed by cicatrization, it always remains a weak point, from which protrusion is liable to occur from want of physical power in the cicatrix to resist the pressure from within.

Ventral hernia.—This distinguishing term has been applied to protrusions of the intestine from any part of the abdomen where blood-vessels pass through the tendinous parietes, particularly in the course of the linea alba and linea semilunares; but not through the muscular parietes, as in consequence of the arrangement of the fibres of the three large flat muscles, an effective barrier is presented to protrusion through them, unless from some abnormal cause their vital contractile power becomes diminished.

Obturator hernia.—In this hernia the intestine passes through the opening in the ligament of the obturator foramen, through which the obturator vessels and nerves are transmitted: this hernia also derives a covering from the internal abdominal fascia.

Ischiatic hernia.—This is a protrusion of a viscus through the ischiatic notch, accompanying the course of the great sciatic nerve; but from the depth of its situation it can scarcely happen that it can be discovered during life.

Perineal hernia is produced by the escape of intestine through the lower aperture of the pelvis; it occupies the space between the rectum and urinary bladder, and sometimes forms an external tumor in the perineum.

Vaginal and pudendal herniæ must be considered as modifications of peroneal hernia. They take their specific name according as they encroach most upon the vagina or pudendum.

Diaphragmatic herniæ are usually the result either of malformation or laceration of this great septum; in either of those cases the protrusion is not furnished with a peritoneal sac: this hernia is sometimes produced, however, by the yielding of the natural openings through the diaphragm, and it is then supplied with a distinct covering of peritoneum.

Contents of herniæ.—Any of the viscera contained in the abdomen may become the subject of hernia, and the symptoms vary according to the function of the displaced viscus: hence in forming the diagnosis it is of great importance to ascertain what peculiar function has undergone disturbance.

In consequence of the looseness of the attachment of the jejunum and ilium to the spine by means of the mesentery, those viscera are particularly liable to escape from their natural cavity.

Herniæ in the region of the epigastrium usually contain the transverse arch of the colon; and as this viscus is intimately connected with the stomach through the medium of the omentum, so much derangement in the functions of the stomach is generally produced, as to have led to the belief that that organ was itself protruded. This is, however, of very rare occurrence, and the only displacement to which the stomach seems to be liable is in case of malformation of the diaphragm. I have myself witnessed a case of this diaphragmatic hernia, in a child who had died of remittent fever, with some anomalous symptoms that were afterwards accounted for in great measure by the abnormal position of the stomach. Many years since, I saw a very large scrotal hernia in a patient of Mr.

Dalrymple, of Norwich: strangulation had occurred, and it was necessary to resort to the operation: the patient, however, died, and on post-mortem examination it was found that the whole length of the intestinal canal was contained within the hernial sac, and even the pyloric extremity of the stomach was drawn down as far as the external abdominal ring, the stomach forming a continuous tube extending from the hypochondriac region, across the abdomen to the right side of the pubic region.

The ovaria, fallopian tubes, and even the uterus, sometimes constitute the contents of a hernia, giving rise to symptoms which rather indicate disturbance in the functions of the procreative organs, than in those of the alimentary canal. Mr. Teale mentions a case of a young female, from whom the ovaria were removed by Mr. Nourse, of St. Bartholomew's Hospital, in consequence of their protrusion into the inguinal canal, producing so much inconvenience as to incapacitate the girl for her ordinary avocations. After the operation, she completely recovered her health, but ceased to menstruate, although that function of the uterus had been before properly performed.

The cæcum is occasionally the subject of hernia, which is peculiar on account of the absence of a peritoneal sac.

There are no very distinct and well-marked symptoms which enable the surgeon to ascertain with accuracy the exact portion of intestine which really forms a hernia,—for as a hernia of intestine must necessarily interfere with the functions of the bowels, the symptoms arising from such obstruction are very similar, whatever may be the portion of intestine protruded.

About a year ago, I performed the operation for inguinal hernia on the right side, in a patient of Mr. Ward, of Watford. On laying open the internal abdominal fascia, (usually termed in this situation the fascia spermatica interna), I immediately exposed the intestine, uncovered by peritoneum, and which, from its broad muscular bands, and the presence of the vermiform process, proved to be cæcum. As soon as I divided the stricture, the patient evacuated the bowels per anum; this I considered a very favourable symptom, but he died of peritonitis the fifth day after the operation.

It may be supposed that hernia of the cæcum could only occur on the right side; but cases are recorded in which it has passed over so as to constitute a hernial protrusion on the left side of the body. This I should, however, imagine could only happen secondarily, the viscus being drawn over by an extraordinary protrusion of ileum to which it is attached; indeed, on the right side, the cæcum may protrude into a hernial sac already formed by the ilium, and nothing but the great size of the tumor could lead to the supposition that such a condition existed.

In the left inguinal region, the sigmoid flexion of the colon sometimes fills the hernial sac: it may be uncovered by peritoneum, and be altogether under circumstances similar to those which relate to the cæcum. The diagnosis is less difficult in these cases, if none of the small intestines be affected, for the symptoms indicate obstruction of the large intestines alone, and are unmarked by urgent or stercoraceous vomiting.

Hernia of the urinary bladder sometimes takes place, the circumstances, as far as refer to its coverings, being the same as in hernia of the cæcum, the bladder being only partially covered by peritoneum. The symptoms are, however, sufficiently distinctive, and clearly indicate the particular organ protruded. The principal predisposing cause of this hernia is abnormal distension of the bladder by protracted retention of urine: it remains, when emptied, in a flaccid condition, and exceedingly liable to be protruded through the abdominal rings, if they happen to be at all enlarged. Many cases of such herniæ are recorded, and even some in which the bladder contained urinary calculi, that were safely removed by the operation of laying open the hernial tumor. Some years ago, I saw a gentleman at the house of my friend, Mr. Cooper, of Brentford, who was the subject of hernia of the bladder. The viscus seemed to have escaped as a direct inguinal hernia, through the external abdominal ring, proceeding downwards, partly into the scrotum, and partly into the inguinal canal. This gentleman could only empty the bladder completely, by raising the scrotum, and pressing at the same time both the scrotal and inguinal tumor. In this case, Mr. Bigg contrived a suspensory bandage, capable of exerting pressure upon the inguinal region: this afforded very considerable relief to the inconvenience and annoyance naturally attached to such a condition.

Sir Astley Cooper has also described the dissection of a case of hernia, in which the urinary bladder formed part of the contents of a hernial sac, intestine and omentum being protruded at the same time; the bladder was, however, situated behind the sac, being merely adherent to, and not within it.

An important symptom of hernia of the bladder is the frequent desire to make water, from the patient not being able to perfectly empty the organ. It may be supposed that ventral herniæ of the bladder would not be very unfrequent, as we so often find that congenital defective nutrition produces malformation of the anterior parietes of the abdomen in the pubic region. When, however, such a hernia does occur, it is not of the usual character of ventral hernia, but it is found that the anterior surface of the bladder is equally defective with the parietes of the abdomen, so that the protrusion presents the mucous surface of the posterior wall of the organ, without any peritoneal covering. I have seen several cases of this kind, and know a gentlemen, now living, and upwards of forty years of age, who is the subject of this malformation, and suffers, indeed, little more than the inconvenience arising from the constant exudation of the urine.

Herniæ not only derive their distinctive names from the openings through which they protrude, but also from the name of the viscus they contain. If, for instance, the tumor contain intestine alone, it is termed an enterocele; if omentum, an epiplocele; if both intestine and omentum, an entero-epiplocele; and in like manner if a tumor be formed by the protrusion of the urinary bladder or uterus, it is termed respectively a cystocele or metrocele.

Causes of Hernia.—The cause of a hernia may be either predisposing or exciting. The weakness of the parietes of the abdomen, owing to the number of outlets they contain, may perhaps be looked upon as the most fruitful source of the protrusion of abdominal viscera, and any influence which tends to increase abnormally the size of these openings, must increase the liability to hernia. Each opening appears to be furnished at its external circumference with an arrangement of muscular fibre, which, when in action, resists the escape of the inclosed viscera. Any diminution of the muscular irritability, will, therefore, diminish also the natural resistance at these points. This is proved by the circumstance, that hernia is seldom produced by violent voluntary muscular exertion, but, on the other hand, occurs very often under sudden exertion, when the muscles of the abdomen are unprepared to maintain the equilibium of resistance, as in making a strong sudden effort to recover a false step, or in the shock communicated to the body by the stumbltng of a horse. The debilitating influence of long illness upon the muscular system also strongly predisposes to the hernia, and persons who are suddenly reduced from obesity to comparative thinness are very liable to this affection, from the relaxed condition in which the walls of the abdomen are left, and from the absorption of the fat which frequently served to partially fill up the openings. A similar condition is very often the result of the evacuation of the fluid in ascites. Congenital defects may also constitute a prominent predisposing cause of hernia, and this, as well as the other causes already enumerated, tends to the liability to protrusion of viscera, on the accession of any exciting cause, whatever it may be.

Exciting causes of hernia.—One of the most frequent of these is cough of long standing, which, from the contractions it produces in the diaphragm, gives rise to a continued pressure of the viscera downwards, tending to force the more moveable intestines through the enlarged apertures which traverse the already weakened walls of the abdomen. Constipation of the bowels, and permanent stricture of the urethra, in both of which continued muscular exertion is required in the expulsion of the excretions, often constitute a source of hernia, and mechanics from wearing belts, and females from the pressure of ill-shaped and excessively tightened stays, are rendered extremely liable to visceral protrusions, which are also sometimes produced by blows on the abdomen, but, in that case, are generally accompanied by laceration either of the muscles or aponeuroses.

As the tumor which constitutes a hernia necessarily passes through a constricted opening, the point at which it protrudes must be the narrowest portion of the swelling, and is technically termed the neck of the hernia: this constitutes the most important part of the tumor, as it is here that the chief difficulty is experienced in returning it into the abdomen. This difficulty is sometimes, indeed, found to be insuperable; and it is under those circumstances that a surgical operation becomes necessary. The central portion of the hernial tumor is termed the body, and its free extremity the fundus. This division may appear unimportant, but by directing your attention to the general configuration of the swelling, and the continuity of its neck with the interior of the abdomen, the diagnostic marks between hernia and other tumors resembling it, are rendered much clearer than they would otherwise be; and this arrangement will also be found convenient in referring to the tumor, when describing the manner and direction in which the force is to be applied in its reduction.

Conditions of herniæ.—A hernial tumor must always be said to be in one of the four following conditions—viz. *reducible, irreducible, obstructed, or strangulated.* A reducible hernia is that which by the application of a slight force may be returned into the cavity of the abdomen. The force employed in effecting this, is technically termed taxis. I shall not, however, further describe this at present, as the direction in which the force is to be applied differs in each kind of protrusion, and must, therefore, be modified according to the particular direction the viscus has taken. As a general rule, it may, however, be stated, that the taxis should be applied while the patient is in the recumbent position, with the trunk and extremities elevated, to relax the abdominal muscles.

Treatment of reducible hernia.—You will generally find, gentlemen, that when called to a case of hernia, the patient, instead of at once informing you of the existence of a tumor either in the abdomen or some other region, will probably complain of a sensation of tightness in the scrobiculus cordis,—a general tenderness over the abdomen, and a constipated state of the bowels, attended by more or less nausea. These symptoms would at once lead you to inquire of the patient if a tumor existed in the abdomen; and, indeed, you should examine yourself, to ascertain whether such is the case: this is more particularly necessary with females, whose natural delicacy would perhaps render them unwilling to mention the circumstance.

If it be ascertained that a tumor does exist, and that it be tender and tense, the taxis should not be immediately applied, but the patient should be placed in a hot bath (100°), and kept under its influence until a slight degree of faintness is produced, which, if he be of a full plethoric habit, may be maintained by abstracting a small quantity of blood from the arm; and, where there is reason to suppose that the large intestines are loaded, an enema should also be administered.

As soon as the patient is put to bed, an attempt should be made to reduce the hernia; and, if this be successful, a truss must be immediately applied, to prevent reprotrusion. Should the hernia not be returnable by the taxis, it becomes a question whether the operation ought to be performed immediately, or whether the return of the intestine should be further attempted by other means. This depends upon the urgency of the symptoms, and the length of the time during which the hernia has been protruded. If the sickness be not violent, and the tenderness also not very great, a bladder of ice may be applied to the tumor: this tends to diminish its size, by condensing the air which it contains, and by checking the flow of blood to the part; and, when this effect appears to be produced, the taxis must again be applied, and the hernia may perhaps now be returned into the cavity from whence it had escaped. Supposing the attempt to be successful, purgative medicines should not be immediately prescribed, but the patient allowed to remain in a state of perfect quietude, to give time for the protruded intestine to recover from the abnormal condition in which it had been placed; and, even should the patient remain several days without evacuating the bowels, unless there were sickness, I should not consider it judicious to e re with the operations of nature by any medical treatment. As soon as the patient has had a motion naturally, he may generally be considered as convalescent. It must not, however, be taken for granted that the restoration of the protruded viscus to its natural situation will invariably relieve the symptoms; it sometimes happens that the hernial sac itself is returned with its contents. This is termed by the French "reduction en bloc." The symptoms may in that case all continue; for, in fact, the only change produced is the conversion of an external into an internal hernia. The treatment, under these circumstances, will form the subject of our future consideration.

It may be inferred, from what I have already said, that the reduction of a hernia is invariably to be attempted. This is not, however, the case; for if the swelling be of long standing,—if the urgent symptoms should have subsided,—if the tumor has become suddenly distended, and the skin discoloured,—it indicates that the contents of the sac have undergone such changes as to be beyond restoration, and are therefore unfitted to be replaced within the abdomen. In this case the hernial sac should be laid open, the stricture divided, and, the real condition of the intestine being ascertained by ocular examination, the surgeon is enabled to decide whether it be still in a fit state to be replaced; and, if it be found sphacelated, a free incision should be made into it, to produce an artificial anus. Many instances are on record in which the patient has perfectly recovered under the latter mode of treatment.

When it is considered advisable to attempt the reduction of a hernia, and it has proved successful, a truss must be immediately applied, for the purpose of retaining the returned parts within their natural cavity. I always order a double truss to be worn even where the rupture is on one side only; for the equable and symmetrical pressure is more agreeable to the patient, and it also prevents the tendency to rupture on the opposite side, often induced by wearing a single truss. Bandages and compresses are sometimes found sufficient to retain the hernia without the use of metallic springs; but they are generally employed only in umbilical and ventral herniæ. All mechanical contrivances may, indeed, be found ineffectual in preventing the reprotrusion: hence various operations have been devised for producing "the radical cure" of reducible hernia. The object, under these circumstances, is the permanent closing of the aperture through which the intestine passes. Most of the proposed operations are, however, in my opinion, unwarrantable, from the great danger of peritonitis: and, indeed, I consider all operations on the hernial sac, such as excision, cautery, ligature, and so forth, as extremely reprehensible.

An operation has, however, been recommended by M. Gerdy, which I have once performed on a patient who had a large scrotal hernia, the descent of which could not be prevented by any kind of truss that I could procure. I was therefere induced to resort to this operation, because, of all those proposed, it presented least liability to inflammation of the peritoneum. The following is an account of the case:—

John Hollman, æt. 22, was admitted into Guy's Hospital, 1840, being the subject of a large reducible inguinal hernia on the sight side; and, as this could not be retained in the abdomen by any truss, he was rendered perfectly incompetent to follow his usual avocations, and consented readily to the operation which I proposed. Being placed on his back on a table, with his chest and thighs raised, I passed the forefinger of my left hand as high up as I could through the external ring into the inguinal canal, pushing before it a portion of the integument of scrotum. I then introduced a director, along which I passed a needle fixed in a wooden handle, and armed with a double silk ligature. The needle was passed to the very extremity of the invaginated skin, and was pushed through the tendon of the abdominal oblique muscle and the skin, and brought out an inch and a half above Poupart's ligament. One end of the silk was then retained by an assistant, and the needle drawn back, and pushed through a second time in exactly the same manner as at first, but including about four lines of the invaginated integument. The two free ends were then tied over a piece of bougie with a sufficient degree of tension to retain the intruded portion of integument firmly within the inguinal canal. A piece of lint wrapped around a director, and dipped into Liq. Ammon., was passed into the "cul de sac" of skin, and the surface well rubbed with it, to remove the cuticle and promote inflammation in the cutis, for the purpose of obliterating this integumentary canal, and forming a plug sufficiently firm to prevent the future descent of the hernia. The application of the ammonia produced intense pain: this was, however, relieved by opium. Four days subsequently to the operation, the ligature was removed, as purulent discharge was freely established. Pressure was kept upon the part by compresses, to promote perfect union, and in about three weeks a weak truss was applied; but he still remained in the hospital another fortnight, after which, as the hernia did not descend, he left. About two months after he had returned to his employment, which was of a violent character, the hernia partially descended; but, by the use of a stronger truss, he has ever since been able to continue at work, being, however, sometimes subject to a slight return of the affection: this man may be said to be relieved, but not permanently cured, by the operation.

Irreducible hernia.—This is a form of hernia in which, although the contents cannot be returned into the abdomen, they are not subjected to sufficient constriction to render them incapable of performing their natural functions. It is sometimes termed incarcerated hernia. The distinction between the two is, however, perfectly obvious: in one case the contents of the sac are only permanently retained in it; in the other the intestine is so much restricted that its natural functions are completely impeded. It rarely happens that a recent hernia becomes at once irreducible, unless it be immediately strangulated; and by far the most frequent cause which renders a hernia irreducible is the employment of an ill-fitting truss, which, admitting of the descent of a reducible hernia, presses upon the contents of the sac, and produces thickening of the parietes, and, perhaps, at the same time, adhesion between the intestine and the interior of the sac. Any circumstance, however, which leads to inflammation of the contents of a reducible hernia may induce a liability to incarceration. No very urgent symptoms necessarily present themselves to mark the conversion of a reducible into an irreducible hernia: the functions of the alimentary canal may still be duly performed, and the patient may be considered perfectly free from danger; but any internal functional derangement or slight external injury would perhaps suddenly produce the most urgent symptoms: for example, undigested matter of any kind passing into an incarcerated knuckle of intestine is retained not only in consequence of the form of the protruded bowel, but also from the diminution of its peristaltic action; and thus an irreducible is at once converted into an obstructed hernia.

The symptoms arising from such an obstruction as that just named are very similar to those in strangulated hernia, but are less urgent in their character; and the history of the case, and the gradual progress of the symptoms, enable the surgeon to judge between them.

When it is decided that the case is one of obstruction, and not of strangulation, copious enemata of gruel and castor oil should be administered, and purgatives employed at the same time. These means are usually found sufficient; but the warm bath, and the application of ice to the tumor, may in some instances be required. If, however, the hernia should be obstructed by external injury, purgatives ought not to be prescribed; but leeches, and subsequently ice, should be applied, and the patient kept in perfect rest, as any attempt to produce evacuation may lead to lesion of the injured intestine; while, if nature be left uninterfered with, evacuation will take place as soon as the bowel is sufficiently restored to render it capable of supporting the necessary action.

If the obstruction, whatever be its cause, cannot be overcome by the means indicated, there remains no alternative for the surgeon but to perform an operation similar to that in strangulated hernia. After the obstruction has been removed, if the hernia still remains irreducible, it is of great importance to convert it, if possible, into the reducible form, without having recourse to a surgical operation. The mode of effecting this is well illustrated in the following case:—

A young farmer, who was the subject of irreducible hernia, was sent to me by Dr. Baddeley, of Chelmsford. The hernia was of two years standing, and so anxious was the patient to obtain relief, that he was willing to submit to any system of treatment that promised to afford it. I prescribed, in the first instance, purgatives, to produce complete evacuation of the bowels, and ordered him to remain bed, with his shoulders and thighs raised, so as to perfectly relax the abdominal muscles. A low diet was strictly enjoined, and a grain of blue pill and a quarter of a grain of tartarized antimony given twice a day, with the intention of stimulating the absorbents to the removal of the fatty matter of the omentum. Ice was frequently applied, and also enemata, to keep the intestines perfectly empty. So anxious was the patient for the removal of his complaint, that he submitted to all these restrictions during the space of five weeks, but in that time no favourable change had been produced beyond a slight diminution in the size of the tumor. At last, quite despondent at this want of success, in a fit of impatience he one morning jumped out of bed, when, to his great surprise and joy, the tumor suddenly disappeared. He immediately applied his truss, and has never experienced the least return of the protrusion; taking, however, the precaution of always wearing a truss even in bed.

From the successful result of the treatment in this case, I have been induced to repeat it in several others, both in public and private practice, and have found it very successful. If, however, your efforts should prove abortive, and the hernia remain irreducible, an apparatus should be contrived to support the tumor and defend it from external injury; and, at the same time, the most scrupulous attention must be paid by the patient to his diet, both as to quality and quantity; for, by merely a slight inattention to the rules laid down, he subjects himself to a return of the disorder, and consequent imminent danger to his life.

Original Communications.

ON THE

SIZE AND SITUATION OF THE INTERNAL ORGANS IN VESICULAR EMPHYSEMA AND BRONCHITIS.

By Francis Sibson, Esq.
General Hospital, near Nottingham.

1. *Emphysema and Bronchitis produce t same general effect on the size and situation of the lungs and heart.* 2. *In Emphysema the lungs are increased in volume to an extent proportioned to the duration of the disease.* 3 *Indicated in M. Louis' tables of the extent of emphysema in different cases.* 4. *Case of Wm. Galloway (see engravings) affected with emphysema and heart disease.*
5. *Enlargement of the heart usual in emphysema, and is indicated in the last stages by œdema — M. Louis' cases of emphysema—Dr. Boyd's, Dr. Clendinning's, and the author's, enumerating those in which the heart was enlarged.* 6. *The heart is also usually voluminous in bronchitis — Dr. Boyd's and Dr. Clendinning's cases.* 7. *Dilatation and hypertrophy of the right side of the heart. the especial result of emphysema and bronchitis, illustrated by the author's and the observations of Dr. Stokes, Dr. Hodgkin, and Dr. Hasse—Remarkable induration of the walls of the right ventricle is sometimes observed.* 8. *Only a very small portion of the heart is uncovered by the voluminous lungs—The lower boundaries of the lungs are lower, by an inch or more, than in health—The exposed portion of the heart, and the heart's impulse, are immediately behind, below, and to the left of the xyphoid cartilage—The impulse of the apex is not felt between the ribs.*
9. *The diaphragm is flattened and lowered in emphysema.* 10. *The chest is expanded.* 11. *The liver is sometimes lessened in emphysema—sometimes, especially when complicated with other diseases, enlarged, and is usually enlarged in bronchitis—Dr. Boyd's cases.—In emphysema the liver may be small, and yet its lower margin may be unusually low, the viscus being much displaced downwards by the descent of the diaphragm.* 12. *Summary.*

I am induced to defer the description of the minute changes occurring in the lungs in bronchitis and emphysema until I have the advantage of seeing a paper on Emphysema, by that accurate observer, Mr. Rainey, which is about to be published in the Medical and Chirurgical Transactions.

2. My object in this paper is to describe the position of the internal organs in bronchitis and emphysema. In this point of view, those two diseases may be considered together, as they both produce the same general effect on the lungs and heart.

The deviation from health is so much more marked in emphysema than in bronchitis, that I shall more immediately and particularly describe the changes in the position of the internal organs in that disease.

The essential feature in emphysema is the general and permanent enlargement of the lungs. The volume of the lungs may be increased, so that they occupy more space than can be occupied by the healthy lungs during the deepest possible inspiration. The lungs are permanently enlarged; there is inability on the part of the patient to expel more than a small portion of air from the lungs. In extreme cases, and during dyspnœa, inspiration is very difficult, but the expiration is much more prolonged and difficult than inspiration. The emphysema may be confined to any part of a lung, or be diffused over the whole of one lung, or may involve both lungs. Unless under special circumstances, the extent of the disease is usually proportioned to its duration.

3. This is well shewn in the two following tables of cases affected with emphysema, examined after death by M. Louis. The 23 cases in the first table died from cholera; the 19 in the second from emphysema or some other disease. The average age of those in the first was 50; the second, 60. Those in the first were cut off in an earlier stage of the disease than in the second.

	23 cases which died from cholera.	19 cases which did not die from cholera.
General emphysema—		
in both lungs . . .	6	12
left lung	3	2
right lung . . .	1	1
of left upper lobe . .	7	2
right upper lobe .	7	0
left lower lobe . .	1	0
right lower lobe .	2	2
middle and upper lobe of right lung	3	0
middle part of right lung	0	1

Both lungs were affected throughout in 26 per cent. of those patients affected with emphysema and dying from cholera who were on the average in the early stage, and 63 per cent. of those cases not dying from cholera who were in the later stages of emphysema.

4. In W. Galloway, the patient from whom the engravings which illustrate this paper were taken, the whole of both lungs was affected with emphysema, but the disease was more extensive in the right lung. Before death he had extensive œdema. Much serous fluid was found in both pleural cavities, especially the right. The heart was very large, the ventricular walls being thick, and the right cavities and pulmonary artery excessively dilated. There was some thickening of the margin and tendinous cords of the mitral valve. Regurgitation had probably taken place during life both through the mitral and tricuspid openings. There was a loud systolic bellows sound below and to the left of the xyphoid cartilage.

5. In the co-existence of œdema and of enlargement and disease of the heart, Galloway's case illustrates the deduction of M. Louis, that in all those persons dying from emphysema who had œdema of the lower extremities, the volume of the heart was materially increased.

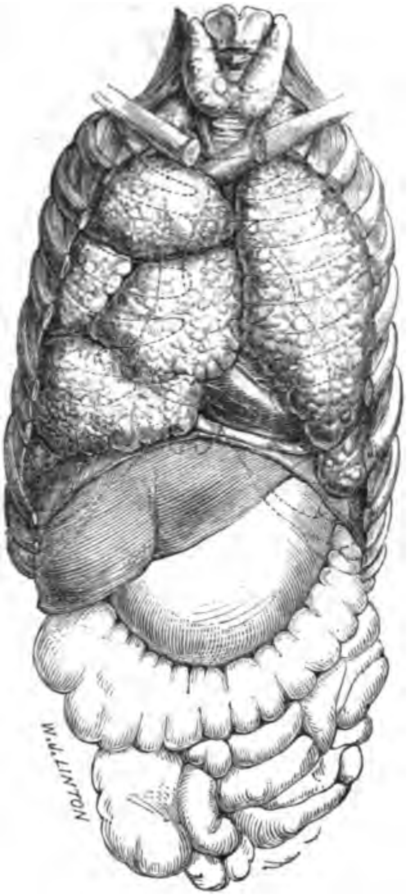
Enlargement of the heart is the frequent, though not invariable, concomitant of emphysema, as M. Louis observed in

	Affected with Emphysema.	Heart voluminous in
Cases that died from cholera	23	6
Cases that did not die from cholera (the most advanced cases)	19	10

In the latter, or the more advanced class of cases, the heart was enlarged in more than half; in the less advanced cases it was only enlarged in about one-fourth,—going to shew that in such cases the enlargement of the heart is usually consecutive to, and caused by, emphysema. Sometimes, however, emphysema is consecutive to, and caused by, heart disease.

That accurate observer, Dr. Boyd, in the statistical reports of the diseases

Superficial view.



William Galloway, aged 43.—Emphysema, bronchitis, enlarged heart, right cavities dilated. Serum in both pleura. Œdema. (Galloway habitually lay on the right side, the body consequently twisted to the right.)

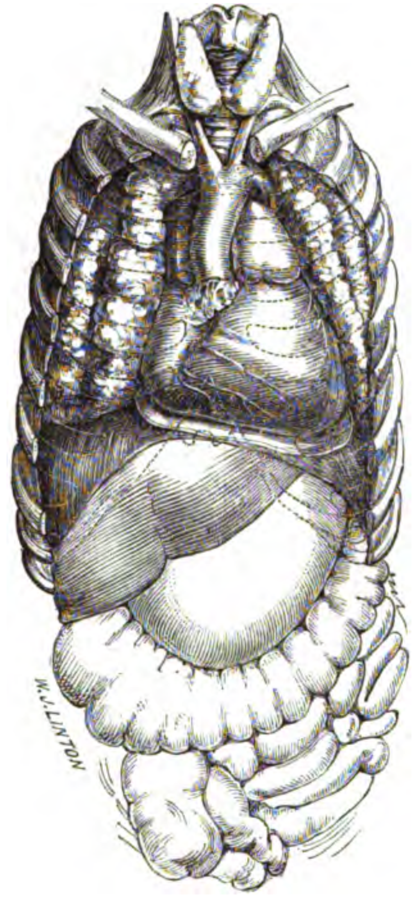
Weight of the organs.—**Heart, 14½ oz.; right lung, 23½ oz.; left lung, 23 oz.; liver, 40 oz.; right kidney, 5 oz; left kidney, 5½ oz.; spleen, 7 oz.**

and weights of organs of persons dying in the Marylebone Infirmary, gives 19 cases in which emphysema existed to a greater or less extent. In all of these cases the weight of the heart was greater than in the healthy average (9 oz. in men; 8 in women). In 15 of the cases the average was 15½ oz., the lowest being 12, the highest 22 (this case was complicated with pericarditis). In two, the heart was stated to be large; in the remaining two, one heart weighed 9¼ oz.; the other, 10: these were from females, and above the average by from 1 to 2 oz.

Dr. Clendinning gives four cases of the same class from the same sources: in two of these the heart was much enlarged, while it was slightly enlarged in the remaining two.

Of ten cases observed by myself, the heart was enlarged in eight, and of normal size in two. One of these two cases died from a compound fracture of the leg; the other, a man, from pleuritis and other affections, the re-

Deep view.



sult of an injury which had occasioned rupture of one of the enlarged lobules of the left lung, and consequent pneumothorax.

6. In bronchitis, as in emphysema, the lungs are voluminous, and, in addition, in the majority of cases, the heart is enlarged.

Dr. Boyd gives 15 cases of bronchitis, in all of which the heart was enlarged. In ten of these cases in which the heart was weighed, it averaged 14½ oz. Nine of the 19 cases of emphysema given above were complicated with bronchitis.

Dr. Clendinning gives 7 cases of chronic bronchitis: of these, 3 were rather below than above the average weight (two of these bodies were much wasted in flesh); and in 4 it was above the average from 1½ to 2½ oz.

We may, then, consider it as statistically proved, that, in the majority of cases of emphysema and bronchitis, the heart is abnormally large.

7. In Galloway, and in Hudson, affected with emphysema; and in Wiberley with bronchitis, (the two latter are figured in my paper on the Situation of Internal Organs, published in the Provincial Medical Transactions, xii. 402, 429), the right ventricle and the pulmonary artery were unusually large. In Galloway, the dilatation of the right cavities was remarkably great. In both of these cases the right ventricle almost completely concealed the left, a mere mar-

gin of which was only observable to the left of the right. Dr. Stokes speaks of the influence of this disease, at page 191 of his work, on Diseases of the Chest, as producing an accumulation of blood at the right side of the heart, and consequent disease of the pulmonary or right cavities, which are both dilated and hypertrophied.

Dr. Hodgkin, in his Morbid Anatomy, ii. 86, observes that he has found several of the best marked cases of dilatation and thickening of the right ventricle, in conjunction with emphysema, which appears to have a strong tendency to lead to diseases of the heart, but. more especially of the right cavities.

Dr. Hasse, too, in his Pathological Anatomy, p. 311, places hypertrophy and dilatation of the heart, having its seat for the most part in the right ventricle and auricle, foremost among the secondary changes resulting from emphysema.

In two cases of emphysema in which there was hypertrophy and dilatation of the right ventricle, the walls of the ventricle were abnormally hard and firm, standing out when cut into, just as if they had been previously hardened in alcohol.

In emphysema and bronchitis, the resistance to the circulation through the capillaries of the lungs causes accumulation of blood in the right cavity and its consequent dilatation, and increased force in its walls to propel the blood, and consequently their hypertrophy.

The expansion of the chest itself tends to enlarge the cavities of the heart.

8. It will be observed that in Galloway, although the heart is so materially enlarged, yet that only a very small portion of the heart is uncovered by lung. The heart is, indeed, much enlarged, but the amplification of the lungs is such. that the whole heart is covered by them, except a small portion of the right ventricle.

The lower margin of the lungs, and the lower boundary of the heart, are materially lower than they are in health, those boundaries being behind the lower end of the xyphoid cartilage, instead of the lower end of the sternum —a full inch lower than in the healthy state.

In the case of a man examined by me during life, they were about an inch below the lower end of the xyphoid cartilage.

The lower margin of the right lung instead of being behind the sixth rib and costal cartilage, is behind the seventh rib. The enlarged left lung is completely interposed between the apex of the heart, and the ribs and intercostal spaces: the impulse is consequently no longer perceptible between the intercostal spaces, as the upper boundary of the cardiac region (that portion of the heart in contact with the walls of the chest) is behind the lower margin of the sternum, and the fifth and sixth costal cartilage, instead of the middle of the sternum, and the fourth costal cartilage. The unusually resonant left lung completely replaces the usually dull region occupied by the heart, and that region is seated instead, behind, below, and to the left of the xyphoid cartilage. At that region, cardiac dulness may be discovered by percussion; and there the impulse of the right ventricle is always visible and to be felt, the impulse at the apex being completely unfelt, owing to the interposition of the enlarged lung.

Emphysema may be usually detected at sight by the want of impulse between the fifth and sixth ribs, and by its presence behind, below, and to the left of the xyphoid cartilage. This is exactly the change in position of the impulse that takes place when we direct a healthy person to take a deep breath, and hold it. The impulse can then no longer be felt between the fifth and sixth ribs, but is perceptible at the xyphoid cartilage.

9. The whole diaphragm is flattened and lowered in emphysema. The diaphragm in extreme cases is lower than it can be in health, during even the deepest inspiration. This is not given in Galloway, but is very well seen in the diagram of Hudson, in the paper on the situation of the internal organs; in him the upper boundary of the right convexity of the diaphragm is behind the lower edge of the fifth rib. The engravings accompanying my last paper, on the effect of abdominal distension and enlarged liver on the position of the internal organs, GAZETTE, July 21st, offer remarkable contrasts to the engravings of emphysema here given. In the former case the diaphragm is pushed upward, the

lungs and heart elevated and compressed; and the heart's impulse unusually high, and to the left: in emphysema, the diaphragm is generally low; the lungs and heart both amplified; their lower boundaries and the heart's impulse being remarkably low; and the abdominal organs are displaced downwards.

10. It may be noticed that the sternum and clavicles, the costal cartilages and ribs, are all remarkably elevated, the whole thoracic space within the ribs being unusually enlarged, in proportion to the emphysematous enlargement of the lungs. The cavities of the heart, especially the right, are not only amplified, but their great vessels are elongated, and the origins of the innominatum and carotid arteries unusually low. It will be well to compare, in these particulars, the engravings which accompany this paper with those in the papers on Health (in March and April) and on Abdominal Distension.

11. The liver, it will be seen, is unusually low in Galloway; at first sight one would suppose it to be much enlarged, but on weighing it, so far is this from being the case, that instead of being above it is below the average weight (which is about 49 oz.), as in Galloway the liver only weighs 42 oz.

Dr. Boyd weighed the liver in ten out of nineteen of his cases of emphysema: in four it was below and in five above the average weight; in four of the latter class emphysema was complicated, in two with bronchitis, in one with pericardits, and in one with pneumonia.

He weighed the liver in eleven cases of bronchitis: in seven cases it was above, in two it was at, and in two below, the average weight.

It is evident that the liver is usually enlarged in bronchitis; the blood, finding a difficulty in passing through the lungs, accumulates first in the right cavities of the heart, and then in the liver. The liver consequently becomes congestively enlarged.

Enlargement of the liver may also, and for the same reason, exist in emphysema, especially when complicated with bronchitis, and in its early stages. But as emphysema advances, the amount of blood that passes through the lungs becomes materially lessened, and as the disease is often of the duration of a long life-time, the whole actual amount of blood in the system diminishes, accommodating itself to the small amount of blood capable of passing through the lungs. The liver is consequently not necessarilly enlarged from congestion in emphysema, but, on the contrary, it is often lessened in size, owing to the blood in its vessels being lessened in quantity.

It is, then, clear that the lowering of the liver in Galloway is due, not to enlargement, but to the downward displacement of that organ, owing to the descent of the diaphragm.

In bronchitis, and in some cases of emphysema, especially when complicated with other diseases, the mass and lower margin of the liver may be lowered from the increase in its size, as well as from its downward displacement, by the diaphragm.

The case of Galloway proves that when the lower border of the liver is unusually low, it is not necessarily to be inferred that the liver is enlarged.

To decide this point it will be necessary to ascertain whether the upper boundary of the liver is lowered, as in emphysema—is in its normal position—or is above its normal position, as in the case of enlarged liver figured in the paper for July 21.

12. In Laennec's emphysema, and in bronchitis, the lungs and the heart being universally enlarged, the whole cavity of the chest is amplified: the sternum and clavicles are elevated—the cartilages and ribs are raised and expanded—the diaphragm is remarkably low, corresponding with the abnormally low position of the bases of the lungs and the lower boundary of the heart, and the upper boundary of the liver and stomach. The whole of the abdominal viscera are unusually low, being displaced downwards by the descent of the diaphragm.

The lower margin of the lungs are from an inch to an inch and a half (or even two inches in the most extreme cases) lower than in health. The cardiac region (the exposed portion of the heart) is unusually low and narrow, owing to the descent of the heart, and the encroachment of the lung between the heart and the costal walls; and the heart's impulse, instead of being felt between the sixth and seventh costal cartilages, is perceptible to the eye and touch in the epigastic space behind, below, and to the left of the xyphoid cartilage.

ON

NARCOTISM BY THE INHALATION OF VAPOURS.

By John Snow, M.D.
Vice-President of the Westminster Medical Society.

[Continued from p. 335.]

Description of the physiological effects of chloroform, continued—when inhaled it acts on the nerves as well as on the nervous centres. Phenomena attending death from chloroform—its action on the heart of the frog.

The advent of the third degree of narcotism is marked by cessation of all voluntary motion. Usually the eyes become inclined upwards at the same time; and there is often a contracted state of the voluntary muscles, giving rise to more or less rigidity of the limbs. This contraction is greater and more frequent from chloroform than from ether, and, by affecting the muscles of the jaw, it sometimes causes a considerable obstacle to operations on the mouth. As there are no signs of ideas in this degree, I believe that there are none, and that the mental faculties are completely suspended: consequently the patient is perfectly secured against mental suffering from any thing that may be done. It does not follow, however, that an operation may always be commenced immediately the narcotism reaches this degree, for anæsthesia is not a necessary part of it; and unless the sensibility of the part to be operated on be suspended, or very much obscured, there may be involuntary movements sufficient to interfere with a delicate operation—not merely reflex movements, but also coordinate actions, such as animals may perform after the cerebral hemispheres are removed, the medulla oblongata being left. Under these circumstances an operation usually causes a contraction of the features expressive of pain, and sometimes moaning or cries, but not of an articulate kind. Whether or not these signs are to be considered proofs of pain, will depend on the definition given to the word; and if they do not interfere with the operator, or influence the recovery, they can be of no consequence, as there is no pain which has an existence for the patient. To obtain anæsthesia when it does not exist in this degree, and thus to prevent these symptoms if we desire, it is not necessary to carry the narcotism further, but only to wait at this point a few moments, giving a little chloroform occasionally to prevent recovery, and allow time for it to permeate the coats of the small vessels, and act more effectually on the nerves. The sensibility of the conjunctiva is a correct index of the general sensibility of the body; and until it is either removed or very much diminished, an operation of delicacy cannot be comfortably performed. Accordingly, in administering chloroform, as soon as the patient has inhaled sufficient to suspend voluntary motion, I raise the eyelid gently, touching its free border. If no winking is occasioned the operation may begin in any case, but if it is I wait a little time, till the eyelids either become quite passive or move less briskly. The state of the eye itself is observed, by this means, at the same time. It is usually turned up, and the pupil contracted, as Mr. Sibson has stated,* in the condition which I term the third degree of narcotism. The vessels of the conjunctiva, also, are sometimes injected, but more frequently they are not.

Dr. Hughes Bennet, in his able report on the properties of chloroform,† argues that the sensibility of the nerves is not suspended under its influence, because respiration, circulation, and uterine contractions continue, which could not be the case if the sensibility of the nerves connected with these functions were destroyed. This argument would have some weight if the nerves of common sensibility did not differ from those of the organic system, or those which arise from the respiratory tract of the medulla oblongata; but, as the case stands, it has none: and there is no more difficulty in conceiving a variable degree of susceptibility and of resistance to the effects of chloroform in different sets of nerves, than in different nervous centres. A careful observation of cases shows that the amount of local insensibility by no means keeps pace with the degree of sopor or coma, but is later in coming on and going off, and varies in amount in different patients; and as we know that chloroform, like other narcotics, produces some effect on parts to which it is locally applied, the conclusion seems irresistible, that it acts on the nerves as well as on the nervous centres. This view of the subject explains some circumstances which before seemed inexplicable; such as that of the patient recovering his consciousness, and telling the bystanders that he does not feel what is being done. For, whilst the vapour is escaping from the blood by way of the lungs, there is no difficulty in understanding how the brain may recover its influence sooner than the branches and peripheral expansion of the nerves; since, in the brain, not only is the circulation more rapid, but there is little, if any, lymph external to the vessels; whilst, in the body at large, the chloroform, having transuded through the coats of the capillaries into the extra-vascular liquor sanguinis, remains there for a little time, acting on the nervous fibrillæ, before it can pass again by endosmose into the vessels. It is in young subjects, in whom, connected with the more active process of nutrition, the quantity of lymph external to the vessels is greatest, that the general insensibility most frequently remains, whilst the cerebral hemispheres are resuming their functions.

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* Med. Gaz., Feb. 18. I think that the turning up of the eyes is not so constant as Mr Sibson believes, as I have been unable to observe it in some patients at any stage.

† Monthly Journal, Jan. 1848.

In the fourth degree of narcotism there is relaxation of the voluntary muscles, together with general insensibility. I am better acquainted with this degree as induced by ether than by chloroform, for with the latter agent the third degree appears to encroach somewhat on this; chloroform seeming to differ from ether, and approaching somewhat in its effects to benzin and bisulphuret of carbon, which, we have seen, are not attended with muscular relaxation at any stage of their effects. Accordingly, I am inclined to prefer the use of ether, to assist the reduction of dislocations and strangulated herniæ. There is, however, often sufficient relaxation of the muscles to effect these objects even in the second degree of narcotism, especially if the effect have been kept up a little time. I was at one time inclined to believe that the functions of the spinal cord were more or less suspended in this degree, since reflex movements cannot be excited by any impressions made on the eyelids, or general surface of the body; but these reflex movements are absent in every degree of narcotism, when the common sensibility is abolished, and, thee d by the circumstance is best explaine attributing it to the narcotism of the nerves. Other functions of the spinal cord certainly remain; for the sphincters of the bladder and rectum continue contracted, and respiration goes on. The sensibility of the glottis continues, apparently unimpaired, in this degree of narcotism, but that of the pharynx is probably suspended; for, in operations on the mouth and nose, the blood sometimes finds its way into the stomach, without any visible act of swallowing. This takes place frequently, when the narcotism does not exceed the third degree. In these cases, it probably runs along the channel there is at each side of the epiglottis. The breathing is not unfrequently attended with some degree of stertor in the fourth degree; and the reason why one does not often meet with stertor in exhibiting chloroform, is, that one seldom carries the narcotism so far. There is a little stertor occasionally, even in the third degree of narcotism; and this symptom, and rigidity of the muscles, are met with altogether. There may be simple snoring in any degree of narcotism, and even in the natural sleep which often follows the state of insensibility; but it never comes on during the first minutes of the inhalation of chloroform, unless the narcotism reaches to the third or fourth degree. The iris is less sensible to light in this degree than under ordinary circumstances, and the pupil is about the usual size. I have never observed it widely dilated, or totally insensible to light.

I have not mentioned the pulse in the above outline of the action of chloroform on the human subject, as it is not indicative of the amount of narcotism. It is usually somewhat increased in force and frequency, as it is by a moderate amount of fermented liquor. This effect subsides with the effect of the vapour; but I have not remarked the pulse become slower after chloroform than it might be expected to be, in the same patient, in a state of perfect repose. 52 is the slowest pulse I have met with, and that was in a healthy man. This moderate acceleration is, I believe, the only direct effect of chloroform on the pulse. Indirectly, it may affect it in other ways. If, for instance, the breathing is interrupted by the pungency of the vapour, or from any other cause, the pulse becomes small and frequent, and when sickness is induced, it is diminished in force. If it is very frequent at the beginning of the inhalation, from mental perturbation, as is often the case, when the patient is about to undergo an operation, the frequency diminishes, as all anxiety departs with the loss of consciousness.

When animals are killed with chloroform, and not too abruptly, there is a stage between the fourth degree and the cessation of respiration in which the breathing is difficult, and sometimes slow and irregular. This I have named the fifth degree of narcotism. It is not every irregularity of breathing which is to be considered indicative of this degree,—for patients occasionally hold their breath for a short time, on account of the pungency of the vapour, and sometimes also, without any evident cause, in the second or third degree; but that need be no source of alarm. The fifth degree of narcotism, on the contrary, is the commencement of dying. I have only met with it in animals. It is sometimes accompanied with convulsive movements of the limbs—a result I never witnessed from ether.

Phenomena attending death from chloroform.

When the animal is made to breathe vapour of chloroform of such a strength that the respiration is stopped in the course of a few minutes, the heart continues to beat for a short time, and the circulation ceases only, as in asphyxia, for want of the respiration, without the heart having been brought under the influence of chloroform. The reason of this, as I explained, with respect to ether, on another occasion,* is not that the vapour is incapable of affecting the heart, but because a smaller quantity suffices to arrest the respiration, and the process of inhalation ceases, without the heart and blood vessels being narcotised. The two following experiments illustrate and prove these points:—

Exp. 41.—A nearly full-grown rabbit was placed in a jar containing 1600 cubic inches, with 64 grs. of chloroform, being four grains to each 100 cubic inches. At first it tried to get out, afterwards it struggled involuntarily, and then sank slowly down, and lay, when four minutes had elapsed, in a flaccid condition, breathing naturally. It did not stir afterwards, except from a slight convulsive twitch of its paw once or twice. In three or four minutes more, the breathing became slower, and ten minutes after it was put in, it breathed its last. It was immediately taken out, and the stethoscope applied to the chest. The heart was heard to beat for between two and three minutes, at first nearly as rapidly as before the experiment, but more slowly and less audibly towards the end. The chest was opened a few minutes afterwards, and feeble rhythmic contractions of both auricles and ventricles were observed, not strong enough to expel the blood with which the heart was filled, but not to distension. These contractions continued unabated during the half hour the inspection continued. The lungs were perfectly healthy, and not congested. Next morning the body was rigid, and the blood in the heart and adjoining vessels coagulated. The sinuses in the cranium were filled with blood, and the vessels on the surface of the brain were somewhat injected, but not those in its substance.

Exp. 42.—Four and a half grains of chloroform were introduced into a jar containing 600 cubic inches, being three quarters of a grain to each 00 cubic inches, and, the vapour having been equally diffused, two frogs were put in. They tried to climb up the side of the jar, as if wishing to make their escape, and one or the other occasionally ceased to breathe for a minute or two, probably from disliking the vapour, but commenced to breathe again. In about five minutes the efforts to escape ceased, and they only moved to adjust their equilibrium when the jar was disturbed. They were now breathing regularly, and continued to do so till about ten minutes after their introduction, when all voluntary power ceased, and the breathing began to be performed only at intervals. They were allowed to remain till half an hour had elapsed, during the last ten minutes of which time no respiratory movement was observed in either of them. On taking them out, and laying them on their backs, the pulsations of the heart were observed on each side of the sternum. These pulsations were the more distinct from the lungs being apparently empty. Now an experiment with chloroform on the frog does not necessarily cease with its pulmonary respiration, for it is capable of both absorbing and giving off vapour by the skin. Accordingly I continued the experiment on these frogs, placing one of them back again, in the course of two or three minutes, in the same jar, with three grains of chloroform, and the other in a jar of 400 cubic inches capacity, with five grains. They were laid on their backs, and the heart of the former one, in air containing half a grain of chloroform to each 100 cubic inches, continued to beat distinctly and regularly, 45 times in the minute, for four hours that it remained in the jar, and it was not observed to breathe during the whole time, although it was watched almost constantly. The respiration commenced again within half an hour after its removal. In about an hour it recovered its power of voluntary motion, and it was not injured by the long narcotism.

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* On the Inhalation of Ether, p. 81.

The pulsations of the heart of the other frog, in air containing a grain and a quarter of chloroform to each 100 cubic inches of air, became slower and more feeble, and in a quarter of an hour could not be observed. The frog was left in the jar a quarter of an hour longer, and removed when it had been in half an hour. The under part of the thorax was immediately opened sufficiently to expose the heart. It was moderately full of blood, but not contracting at all, and it did not evince the least irritability on being pricked, either now or after exposure to the air for some time. It is evident that the heart of this last frog became paralysed by the absorption into the blood of more vapour, in addition to the quantity that was sufficient to arrest the respiration. The temperature of the room during this experiment was 65°.

The effect of chloroform on the heart of the frog is further shewn by the next experiment.

Exp. 43.—A frog was placed in the jar containing 600 cubic inches, with six grains of chloroform. In twenty minutes the respiration had ceased, but the heart continued to pulsate strongly. At the end of three-quarters of an hour the pulsations were more feeble, and had diminished from 40 to 30 in the minute. An hour and five minutes from the commencement of the experiment, no movement of the heart could be observed. The frog was taken out of the vapour, and a portion of the sternum and integuments removed, so as partly to expose the heart, when it was found to be still contracting, with a very feeble undulatory motion. This motion increased in force, and, in a quarter of an hour after its removal, the heart was pulsating regularly and strongly, the ventricle apparently emptying itself perfectly. When the frog had been out twenty minutes, it was placed again in the same jar, with the same quantity of chloroform. In about ten minutes the heart's action began to fail again, and in about twenty minutes the slightest movement could no longer be perceived in it. The frog was immediately taken out, and the ventricle of the heart was pricked with a needle. In a few seconds a slight quivering was observed,—whether the result of the prick is not certain, and the action of the heart became gradually re-established as before. It was arrested a third time by exposure to the vapour; and although, in its third removal, the anterior extremities of the frog had become rigid, the heart resumed its action partially, and continued to contract feebly for three or four hours after the rigidity of death had invaded the body and limbs of the animal.* The temperature of the room was 62° during this experiment.

We learned from some of the experiments detailed in the early part of this paper, that the presence in the blood of one twenty-second part as much chloroform as it would dissolve, had the effect of arresting the respiration. From the last experiment we can determine how much it takes to stop the action of the heart. One grain of chloroform, as was stated before, produces 0·767 of a cubic inch of vapour;

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* The setting in of rigidity in the frog is accompanied by a partial change of posture, and the contraction is sometimes strong enough to move the whole body.

and at 62°—the temperature during this experiment—air, when saturated, contains 13·8 cubic inches. Therefore 0·767+13·8 gives 0·0555, or one-eighteenth of what the blood would dissolve as the quantity which has the effect of arresting the heart's action.

[To be continued.]

ANTICIPATION OF THE

VIEWS OF REINHARDT

ON THE

EXUDATION CORPUSCLE,

TOGETHER WITH SOME PRELIMINARY OBSERVATIONS ON

EXUDATION AND THE ELEMENTARY FORMS OF MORBID PRODUCTS.

By Andrew Clark, M.D.

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[Continued from p. 288.]

Part First—*continued.*

In our former communication we considered generally the subject of inflammation, and the conditions of its development. We gave a summary of modern researches on the subject, and enumerated, in the form of propositions, the particular tendencies to which these researches appeared to point. We have now to continue our remarks on *Exudation* and its *Products*, and to enter upon the details connected with the so called *exudation corpuscle.*

In the first place, then, it appears to me that the *exudation* consequent upon those morbid conditions comprehended under the term *inflammation* is of two kinds—serous and fibrinous.

The *serous exudation* here referred to differs entirely from what is termed *serous effusion*, which is justly considered to be the mechanical result of venous obstruction, and other forms of passive congestion, or venous hyperæmia. Serous effusion differs from *serous exudation* in its physical characters, chemical composition, and vital attributes. The former is albuminous, aplastic, watery, and holds much saline matter in solution; the latter is plastic, viscid, or gummy to the touch, and contains fibrin. *Serous effusion* rarely contains cellular forms, which, when present, are accidental; *serous exudation* always contains cellular forms, which, even post-mortem, develope definite manifestations of vitality. The former occurs indiscriminately in every tissue, in every organ, and under conditions held to be mechanical; the latter is found either in serous sacs or between the pia mater and surface of the brain, and occurs under conditions which, from their complexity, and other vague circumstances, receive the term *vital.* In illustration of these conditions, we may mention hyperæmia, capillary stagnation, and the physical and vital changes said to occur in the part affected, and in the tissues adjacent.

The presence of cellular forms in one class of serous effusions was first observed by Helbert in 1841.* His observations were made without reference to the individuality and distinctive characters of serous effusions, and were brought forward simply in confirmation of his view that these effusions occasionally *possessed* and *developed* the properties of blastemata.

Helbert observed that the fluid of a blister, produced by cantharides, which, on its discharge, contained *no* corpuscular particles, exhibited, after standing some hours in a glass jar, numerous, though imperfectly developed, granular cells,† the developmental stages of which are pourtrayed in the drawings which illustrate his memoir. From this, and similar observations he conceived the fluid of a blister to possess the properties of a blastema, and considered the cellular forms which it exhibited to be new formations.

The observations of Helbert were too few and limited safely to permit of any general conclusion; and the presence of cellular forms in the fluid of cutaneous vesications can be so easily accounted for by the histological peculiarities of the skin, that the view is rendered unworthy of any formal refutation.

The perusal of these observations, however, led me to examine more narrowly than I had previously done, the chemical and histological characters of serous effusions. I commenced therefore, a systematical examination of all serous effusions; and my observations have extended over 87 instances, of which there were kept the following details:—

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* Vide Müller's Archives for that year.

† Quoted also by Vogel, in his Icones.

Effusion into the cavity of arachnoid	14
Effusion between pia mater and brain	29
Effusion into lateral ventricles of brain	8
Effusion into pleural sacs	9
Effusion into the pericardium	13
Effusion into peritoneum	8
Serous infiltration of areolar texture	6

In reference to this table, it is necessary to observe that serous effusions into the pleura and peritoneum are commonly accompanied by lymphatic exudation; and that the latter is found either adherent to the serous membrane in the form of a more or less perfectly developed fibrous tissue, or floating free and unconnected in the midst of the effusion which occupies the interior of the sac. In the latter case the lymph has become soft, diffluent, and so intimately commingled with the serum as to simulate pus, by which name such effusions are commonly but erroneously recognized. The above observations, however, were made on serous effusions unaccompanied by lymphatic exudation; and it is to these that I desire for the present to confine my observations. Of serous effusions occurring in combination with lymphatic exudation, and of their chemical and histological relations to each other, I shall treat in a separate memoir.

Our observations, then, on uncomplicated serous effusions tend to shew that they may be divided into *two* classes—the one dependent on mechanical causes (simple serous effusion), the other on highly complex conditions, involving increase of vital action or some modified form of nutrition, and which for the sake of distinction we have termed serous exudation. To the differential characters of these forms of serous effusion I have already given a general expression: of the latter only we shall speak in detail.

If a drop of the serous fluid exhibiting the characters peculiar to what we have here termed serous exudation, be examined with a linear magnifying power of about 200, it will be found to exhibit numerous corpuscles, varying considerably in their physical characters and chemical relations. These corpuscles possess certain characters in common: they are all more or less spherical,—vary in size from two to seven times the diameter of the human blood-disc; and the majority exhibit oval eccentric nuclei, and are studded with molecules and granules. For the sake of distinction, however, and in point of hypothesis, these corpuscles may be divided into four classes—representative of so many morphological phases of one body.

1. In the first stage, the corpuscles are oval or rounded, from three to four times the diameter of the human blood-disc, of a pale greyish colour, finely molecular, and generally exhibiting an oval eccentric nucleus. Acetic acid renders the cell wall and its contents almost imperceptible; potass reduces them to an amorphous magma, and leaves visible only the dark linear outlines of their nuclei.

2. In the second stage, the corpuscles are larger, and more nearly spherical. Of this stage there are two varieties. In the first, the molecules existing between the nucleus and cell-wall have become indistinct, and, as it were, fused into a homogeneous mass; the linear outline of the nucleus is destroyed, and that body itself transformed, apparently, into a more or less rounded heap of dark refractive granules. Sometimes this heap of granules, substituting the place of the nucleus, is seen protruded from the external surface of the parent cell, attached to it only by a narrow neck, and appearing as if about to separate and assume an independent existence.* In the second variety of this stage, the corpuscle is studded with dark refracting granules; its outline is less decided, and the nucleus has either disappeared by disintegration, or is obscured by the presence of the granules. *In this variety of the second stage, the corpuscles exhibit a very marked tendency to adhere*

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* It is a fact worthy of remark, that the, so-called, pus of many pulmonary, hepatic, and renal abscesses, is made up entirely of a fluid holding in suspension corpuscles identical in their *general characters* with those here described. On this fact, and on the constitution of purulent fluids generally, we shall shortly speak in detail.

firmly to each other; and they are less decidedly affected by acetic acid: caustic potass reduces them to a finely molecular magma; and ammonia, whilst it renders them pale and finely granular, gives immediate development to numerous cruciform and stellar-shaped crystals of the basic phosphate of ammonia and magnesia.*

3. In what I have considered as the third stage, the corpuscles are rather smaller than those described as typical of the first,—they are more or less regularly spherical, not nucleated, studded with granules, and exhibit an appearance analogous to that described as occurring in the interior of the corpuscles, in the first variety of the second stage. Like the form of corpuscle immediately preceding, that of which we now speak is little affected by acetic acid, exhibits similarly shaped crystals on being acted on by ammonia, and becomes very much paler on the addition of boiling æther.

4. In the fourth stage the corpuscles have attained their greatest size, being from five to seven times the diameter of the human blood-disc, and are perfectly spherical. They are all entirely deprived of their molecular and granular contents, but a very few retain their nuclei, and, with these exceptions, appear to consist simply of a cell-wall and fluid contents.

These are the histological characters of this serous exudation, when examined immediately after its removal from the body. If, however, a portion of this fluid be set aside in a glass jar, and examined after twenty-four hours, it will be seen that a whitish, opaque, and consistent membrane, has been formed in the interval, and that the supernatant fluid exhibits but few of the cellular forms above described. The membrane here adverted to is tenacious, can be spread out upon glass without difficulty, and is found, by microscopic examination, to be composed of corpuscles identical with those described under the third variety of cellular forms characteristic of serous exudation. With oblique light, or by the aid of a condenser, the cells composing the membrane are seen to be surrounded by a very delicate lymphatic fibrillation, which, after a short time, extends over the whole field of vision, and accompanies only, and invariably, the presence of these cellular forms. Acetic acid renders this cellular membrane paler and more highly granular. Ammonia renders it at first darker and more granular, and ultimately gives development to crystals identical with those already referred to.

Three questions naturally suggest themselves for solution in the consideration of these details:—the mode of origin of these corpuscles; their relations to each other; and the nature of the causes immediately engaged in the production of the cellular membrane above described.

The various forms of corpuscles described as peculiar to *serous exudation* may be considered, in abstract, to possess one of two modes of origin: they are *new forms* of morbid products, or, they are modifications merely of *previously existing forms.* In the one case they are developed in and from the serous exudation, which must be held to possess, therefore, the properties of a blastema; in the other, these forms of corpuscles can be considered as representative only of so many diseased conditions of the normal cells peculiar to the locality in which the exudation may occur.

The tenor of our preceding remarks will have already indicated the view which our researches incline us to adopt. We believe, in short, that the serous exudation here referred to does *not* possess the characters of a blastema, and that the cellular forms which it exhibits are not *new products,* but only the representatives of so many diseased conditions of the healthy cells peculiar to the part. We further believe that the varieties of corpuscle described under head 3 are representative merely of the escaped nuclei of previously existing healthy cells modified by disease; *and we consider these as particular illustrations of a general principle, that the elementary forms of morbid products are not necessarily new forms, but that they are often, if not always, modifications merely of previously existing organisms.**

In our next memoir, which will be accompanied with the necessary illustrations, we shall enter into the further details and proofs of this view.

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* These crystals resembled closely the figures given by Rayer of uric acid produced by artificial precipitation.

* Vide note, p. 417.

[To be continued.]

MEDICAL GAZETTE.

FRIDAY, SEPTEMBER 8, 1848.

It cannot be imputed to the Government that they have been backward in suggesting measures for preventing the spread of cholera, should the disease unfortunately reach this country. The passing of the Public Health Act has tended to create a better feeling of security than existed some months since; and we are now promised a Nuisances and Contagious Diseases Act, of a more efficient and permanent character than the temporary measure passed about two years since. The new Bill was read a second time in the House of Lords on Tuesday night, and there is every prospect of its speedy enactment into a law.*

In the measures recommended for preventing the spread of cholera, the first question which meets us is that which refers to the propriety of establishing cholera-hospitals for the sick, or of affording them medical treatment at their own homes. The facts accumulated by the Metropolitan Sanitary Commission are rather adverse to the former plan:—

"The measure of alleviation chiefly relied on during the last visitation of the disease was the establishment of district cholera hospitals; but the experience of the results of these establishments is by no means favourable for their re-adoption, except under particular circumstances and modifications. The prostration of all the vital powers which characterises a severe attack of cholera, is often so extraordinary that the mere assumption of the erect position for a few minutes appears often to deprive the patient of the slightest chance of recovery. The medical testimony is uniform in representing the fatigue of removal as highly injurious in great numbers of instances. It is often strikingly so in the advanced stage even of typhus. It not unfrequently happens that when a patient is removed to the fever-hospital in an advanced stage of this disease, on opening the door of the carriage in which he has been conveyed he is found dead; and still more frequently it occurs that when he has not actually expired before he reaches the ward, and is placed in bed, he is cold, pulseless, and insensible, and never rallies, notwithstanding all that can be done to restore animation. In typhus this extreme debility does not take place for many days; often not until the end of the second or third week; but in a severe attack of cholera it occcurs in two or three hours, and is sometimes present, in its highest degree, before there is time for the medical attendant to reach the bed-side of the patient. This circumstance places the extensive employment of any remedy which involves exertion, or even slight motion, out of the question."

In 1831-2, there was not merely the danger arising from the removal of patients; but the best attempts to afford medical relief to the patients were often rendered unavailing by the terror inspired at the idea of their being associated with others labouring under the disease. The poor entered these hospitals with reluctance; and where, in consequence of the number of deaths, the hospital had acquired a bad reputation, they positively refused to go. From the evidence laid before them, the Commissioners are not inclined to recommend the plan of constructing hospitals for the special reception of cholera patients.

"Experience having thus shown that cholera hospitals failed in accomplishing their object, we would recommend that the best provision practicable should be made for rendering effectual assistance to the individuals who may need it, at their own houses. This, in our opinion, would be the best effected by the selection of proper persons, who may be instructed as nurses, and engaged to devote their whole time to attendance on the sick at their own habitations, under the directions of the medical officer. Prompt assistance might thus be given to the patient without subjecting him to any risk from bodily fatigue, and without anything being done calculated to excite apprehension or alarm. At the same time, the curative measures employed by the medical attendant would be administered under circumstances peculiarly adapted to ensure their success. Instances have been brought under our notice in which the treatment of the sick without removal, and under the superintendence of a competent nurse, was attended with the best effect both on the patient himself and on the people about him.

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* This bill has since received the Royal Assent, and we shall shortly notice its provisions.

"The adoption of the principle here indicated, that of sending competent persons to attend the sick, under medical direction, at their own abodes, would be attended with this further advantage—that all the means recommended for cleansing the interior of the house, and for maintaining the atmosphere of the sick room in the highest attainable state of purity, might be most efficiently carried out by the same agency.

"With respect to medical assistance, we may observe, that since the last visitation of cholera considerable progress has been made in the organization of the local administration for relief in the metropolis, calculated to meet the recurrence of that event. The service of the medical Union officers, however wide the room for improvement, is yet more efficient than the parochial medical service resorted to on the former occasion, especially in the extent and regularity of attendance on out-door patients; and the Union medical officers might be aided by the relieving officers."

There are, however, cases in which it will not be possible to avoid sending patients to cholera hospitals. The Commissioners remark—

"Though, for the reasons just assigned, we deprecate the removal of cholera patients to separate cholera hospitals, yet, should the pestilence become prevalent, cases will probably occur of such extreme destitution, in abodes so exceedingly unfitted for the curative treatment of the sick, that some better provision must be made for them. To send cholera patients to houses already crowded, would be obviously improper; but the new Union houses have generally separate fever wards; and where the isolation is sufficiently complete, it is possible that these fever wards might be adapted for the reception and treatment of such persons as it may be indispensably necessary to remove from their own abodes. Where there is adequate provision for fever cases, there will be probably sufficient provision for cholera cases; because, as has been shown, fever is always more prevalent than cholera; and, as far as we yet know, when cholera becomes epidemic, fever ceases to be so. But we do not feel that we are in possession of sufficient information to offer any opinion on the kind or degree of accommodation which existing establishments are capable of affording to meet the contingent necessity.

"In our opinion, there is but one safeguard against this malady, as against other diseases of the same class. That safeguard consists in sanitary arrangements; and sanitary arrangements, to be efficient, must be such as will secure the purity of the atmosphere, particularly by the immediate and complete removal of all filth and refuse, and that not only from the principal squares and thoroughfares, but also from the streets, courts, and alleys, of the lowest portion of the population. But this requires a general and proper system of street and house drainage, and a supply of water sufficient for keeping the drains and sewers clean, for surface cleansing, and for domestic use. Were the arrangements and the administration for cleansing thus complete, we might still not be able to obtain an absolute exemption from the visitation of cholera, but we should have done what might and must be done to deprive it, should it come, of the means of support and strength.

"The whole tenor of the evidence which has come before us, shows that it is only by measures of prevention that we can hope to obtain any real protection from this disease, and that no measures of alleviation can materially avail against a malady which almost sets at defiance the resources of medical art, which begins and ends its mortal course in a few hours, and which destroys one-half of those whom it attacks."

The measures lately introduced by Government, are calculated to meet the suggestions of the Sanitary Commissioners. Time may be required to bring them into efficient and extensive operation, but, in the meanwhile, we have the satisfaction of knowing that nothing which reason and experience could suggest, has been left untried.

We have just received, through a respectable private source, the subjoined letter from a gentleman who has been an eye-witness of the ravages of the cholera at St. Petersburgh. It is dated the 10th of August, 1848 (July 28th, O. S.):—

"The cholera has been raging here fearfully, far exceeding the visitation of 1831. It is greatly diminished now: the cases last week fell to about 60 a day. The official accounts give out nineteen thousand seized, and about twelve thousand deaths in town; but the published accounts are always misrepresentations, and the real number of deaths most certainly amount to *twenty-five thousand* in town. A great number of the peasantry fled from town to escape it, and died in hundreds along the roads leading to the capital. For the last six weeks, St. Petersburgh has had quite a deserted look: hardly any one stirring, except on business: funeral processions met you everywhere in the streets. The poor infatuated populace ascribed the disease to poison, and consequently there have been several riots in the city.

"About two-thirds of those that died, died from neglect.

"Mr. Bell, of Alexandroffskoi, had about one thousand three hundred people under his care during the progress of the epidemic, and he has lost only about three per cent."

It would be desirable to have some information on a plan of treatment which is stated to have been attended with such extraordinary success.

Reviews.

Remarks on the Employment of Anæsthetic Agents in Midwifery. By G. T. Gream, Medical Officer of the Queen Charlotte's Lying-in Hospital, &c. Pamphlet. 8vo. pp. 37. London: Churchill. 1848.

Arguments against the indiscriminate Use of Chloroform in Midwifery. By S. W. J. Merriman, M.D. Cantab. Pamphlet. 8vo. pp. 27. London: Churchill. 1848.

Practical Observations on the Administration and Effects of Chloroform, especially in its application to Natural Labour. By J. H. Stallard, Esq. M.R.C.S., Surgeon to the Leicester General Dispensary. Pamphlet. 8vo. pp. 22. London: Churchill. 1848.

We have placed these three pamphlets together, as they singularly illustrate the views of three classes of practitioners respecting the employment of anæsthetic agents in the practice of midwifery. Mr. Gream is a decided opponent to their use, Mr. Stallard strenuously advocates their employment, and Dr. Merriman occupies a neutral position, considering that, in certain selected cases where chloroform is employed by an experienced man, it will materially relieve the sufferings of the female without producing mischief.

M. Gream's pamphlet has been some time before us; but we have delayed noticing it, under the expectation that we might be able to contrast the author's observations with those made by other accoucheurs. For many months chloroform had been so extensively employed by accoucheurs, and, as it was said, with such marvellous success, that it required some moral courage for an author to print a work condemnatory of its use. At the same time it was generally admitted that chloroformists were going too far; and that serious accidents were likely to occur from its indiscriminate employment by persons who had had no experience of the mode of administering it, or of relieving any alarming symptoms which might result from its use. Mr. Gream is not opposed to the use of anæsthesia during surgical operations; but then he remarks—

> "There is this difference between the use of it in surgery and midwifery: in the one, a few minutes' inhalation only is necessary; in the other, a prolonged effect must be kept up, in order that pain may be allayed. There is, therefore, a decided source of danger in the one that is not to be found in the other, and it is this prolongation of its effect that forms the principal hazard." (p. 1).

Mr. Gream is right in stating, that, since the first introduction of etherization, everything likely to captivate public feeling, and nothing tending to create alarm, has been put forward; and he considers that no woman who has yet been etherized has been fairly warned of her danger, or, indeed, of any of the ill consequences of the state of narcotism.

> "The introduction of etherization has given rise to a system of writing, not for the benefit of professional men, but to captivate the public at large; and it is much to be regretted that men of talent should permit themselves to be entrapped in a snare which will inevitably lead to their destruction. The word 'quackery,' in conjunction with etherization during parturition, now so frequently used by people of standing and education, sufficiently indicates the feeling that prevails with regard to its employment.
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> "A feature deserving of censure is to be found in the reports of many of the cases of labour in which chloroform has been used,* evidently intended to cause a belief in advantages to be derived from this agent which in fact it does not possess. I refer to the way in which the symptoms attending a second or third delivery are compared with those accompanying the first. To unprofessional readers this has its effect, and a pregnant woman who with her first child may have been forty hours in labour, will at once rejoice at the supposition that the inhalation of chloroform will prevent the recurrence subsequently of so protracted a labour. She is ignorant of the fact that a severe labour is generally followed in subsequent pregnancies by a comparatively painless and much more expeditious delivery.
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> "Many instances might be quoted to show to what I allude. Thus it is said by an author on anæsthesia, in relating a case of labour:—'A second labour, &c.—child was expelled in fifty minutes, &c.;'—'In her first or preceding confinement she had been in severe labour for twenty hours, followed by flooding; no hæmorrhage on the present occasion;'—thus leaving the unprofessional reader to suppose that the inhalation expedited delivery, and that it prevented flooding. To those experienced, however, it would be known that no such effects could be attributed to it. It is not at all necessary, that because hæmorrhage has occurred in one labour—a first and a protracted delivery—it should again happen to the same patient in subsequent confinements." (p. 3).

The false facts that are thus accumulated afford another remarkable instance of the *post hoc propter hoc* style of reasoning which is so common in the records of medical cases. Among the cases supposed to indicate the beneficial effects of anæsthesia in parturition, Mr. Gream gives us the following:—

> "A woman is in labour, the child presents with the feet, they and the body are expelled, the head is retained; some ergot is given and repeated, afterwards ether is inhaled, and it is at once attributed to the ether.
>
> "I cannot help thinking an attempt should have been made to assist the birth from the first, and a very slight effort on the part of the practitioner would have been followed by the immediate escape of the fœtal head. In this case there were certainly no just grounds for the use of the ether.
>
> "Another case appears interesting, for in that, by a happy coincidence, instead of the uterine contractions being increased, they were diminished,—it was a case of turning, in which the uterine fibres were so relaxed that it was performed 'with perfect ease.'
>
> "A case is also recorded, being supposed to favour the use of etherization, but in which there is clear evidence of delay in the birth of the child owing to its employment; the uterus alone was left to expel it, and it had not the power to do so speedily, unassisted by the voluntary action of the abdominal muscles.

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* I have made no direct distinction between the cases in which sulphuric ether has been employed, and those in which chloroform has been the agent; the effects are found to be the same; the former, however, being esteemed the least dangerous, owing to the more gradual supervention of its influence. No greater mistake, perhaps, has been made than in recommending a preference for chloroform in parturition because of its more speedy effect—a reason, of all others, for discarding it in favour of any more slowly acting agent.

"Then there are cases of convulsions reported, all cured by ether and chloroform, but in all bleeding and other remedies had first been actively employed. Some details of cases have been given to me of the wonderful effects of these agents, which have caused me much amusement. But I cannot believe that I heard a true statement of facts,—I am inclined to think that no professional man would expose himself to ridicule by stating to his patients circumstances which by no possibility could ever have occurred. When, however, statements appear in print by authors upon whom reliance may be placed in their own belief in them, but which allude to circumstances that never could have happened, it cannot be surprising that others should follow their example, and persuade themselves that they have witnessed much more extraordinary actions of these agents than the practitioners who boast that they have introduced them. Each succeeding author has observed some more wonderful effect than his predecessor.

"In considering that etherization is said by some to relax uterine contraction, by others to increase it; by some that a full effect must be produced in order to allay pain, by others only a partial effect; by many, that it will cure convulsive attacks, while it has been distinctly proved to induce them; by some, that it will accelerate labour, by others that it retards it; by many, that it saves fœtal life, while it probably tends to endanger and destroy it;—in considering these circumstances, that they are put forward by the advocates of anæsthesia, and the very opposite effects are attributed to etherization by the same authors in many instances, it will necessarily be inquired on whom can we rely for evidence, and is the practice of those who have expressed such unstable opinions, that which we should be induced to follow. But an attempt has been made to introduce the most pernicious of all doctrines. I allude to the endeavour to persuade women that they have a right to insist upon the use of chloroform during their delivery, and that their attendant is to have no voice in the matter, however great his responsibility. Whatever may happen elsewhere, this will never be the case in this metropolis." (pp. 5-7).

No one has contributed so much to a sound knowledge of the action of anæsthetic agents as our correspondent Dr. Snow, whose valuable communications on this subject have frequently appeared in our pages. Mr. Gream makes use of his observations respecting the different stages of narcotism produced by ether and chloroform. To these it is unnecessary to advert. Our author considers that the observations of Dr. Snow are calculated to shew that the use of these agents is very liable to be attended with serious consequences to females in the parturient state. His views are supported by cases quoted from various sources, and the details of which have for the most part appeared in this and other medical journals. He dwells most properly on that cumulative power which Dr. Snow has observed to be more forcibly marked in chloroform than ether. He also condemns the mode of administration advised by Dr. Simpson. As to the cumulative property:—

"A person may inhale a drachm of chloroform, and no altered sensation will at first be the result, but after a certain length of time, complete insensibility may supervene, although no more of the fluid has been inhaled; and thus, again, we have a source of danger, for it might be the case that half a drachm of the fluid inhaled would in some persons be sufficient to produce all the required insensibility to pain, that the brain and spinal marrow may be paralysed by it to the extent of the fourth degree of narcotism, and that the inhalation of more than the half drachm would go beyond the fourth degree, and would paralyze the medulla oblongata, producing the fifth degree, or death. Now it is evident from the facts stated in a former page, that some persons are affected much more readily than others, and that a quantity of the fluid which could scarcely produce any altered condition in one person, would cause death in another. Let it be supposed, then, that a person who is readily influenced inhales chloroform; a drachm or more is inhaled, and no effects are produced at first, but in a few seconds, without further inhalation, the results are apparent, and now the patient becomes insensible: she arrives at the fourth stage; half the quantity she has inhaled has been sufficient to produce complete insensibility, but she has inhaled as much again as is required,—can it be re-taken from her? Is there any antidote at hand? No; in a few minutes the cumulative effects of the whole quantity have developed themselves, respiration has ceased, and the patient is no more. This has absolutely occurred.

"In considering this property of chloroform, it is impossible to pass over the direction given by Dr. Simpson, that 'one or two teaspoonfuls should be placed on a handkerchief,' without noticing the extreme vagueness in giving directions for the use of an agent so uncertain and so powerful; and yet, after having given this loose recommendation, he has thought it necessary, at the eleventh hour, and not until casualties have resulted, to recommend the employment of most active means for the restoration of persons poisoned by etherization." (p. 22-23.)

Mr. Gream gives abstracts of the fatal cases of Greener, Walker, and Mrs. Parkinson, and advances good reasons for the view which we have already taken—namely, that these were really cases of poisoning by the vapour of chloroform, although the advocates of this agent were strongly disposed to refer them to asphyxia, syncope, and certain morbid states of the system. Several other cases have occurred since the publication of his pamphlet. Our author is disposed to think that anæsthetic vapours may produce injurious effects to the child.

"As yet I have not referred to the effect that etherization may have on the fœtus in utero, and on the infant after birth; there are, however, many reasons for supposing that much injury may arise to the offspring; and no evidence, either theoretical or practical, has as yet gone to prove the contrary.

"It is admitted by all that the pulsations of the fœtal heart are greatly increased during inhalation—indeed, to such an extent has this been noticed, that in some instances the pulsations could not be counted,—so much were they accelerated. Are not effusions to be feared from this? are not convulsions after birth likely to ensue? and may not that occur which would make the most heartless mother shudder at the bare possibility of herself, by her want of courage, being instrumental in producing? may not idiotcy supervene? Of this we have as yet no experience, nor shall we have, perhaps, for years; but when one such case occurs, will there then be found any one who will afterwards be persuaded to submit herself to etherization during pregnancy? I have witnessed the death of a child within a few hours after its birth, born while the mother was under the influence of ether, and in that child the pericardium was filled with serum; and I have good reason to suppose that this effusion was the direct effect of ether in increasing the heart's action while in utero.

"There was no difficulty in its expulsion; the child was full grown and healthy; some difficulty was experienced in establishing respiration, which was not accounted for by any circumstance whatever as regarded the presentation or the duration of the labour, which was short; but at length both respiration and circulation were to a certain extent established; the child, however, constantly cried as if in pain; after a few hours its cries became more feeble, its lips were livid, its extremities cold, and the heart's action weak, the muscles of the face being partially convulsed, and it ultimately died; there were no morbid appearances, with the exception of the pericardium being filled with serum." (p. 31-32.)

The great danger which in Mr. Gream's view, is to be apprehended in the use of chloroform, is its tendency to produce congestion. Experiments on animals, as well as the inspection of the bodies of those persons who have already fallen victims to the anæsthetic mania, have clearly established that each degree of etherization is accompanied by a gradually-increasing congested stated of the blood-vessels. On this our author remarks—

"Considering the almost constant predisposition that exists in pregnant women to congestion—considering that congestion is the direct cause of puerperal convulsions—considering the very many sequels to congestion under any circumstance to which persons are liable, but especially so when pregnant,—I assert, without the fear of contradiction, from those bound by the moral and legitimate laws of the practice of medicine, that the exhibition of ether-vapour in parturition is an act at once unjustifiable, and I question whether it will not before long be considered criminal according to law.

"And yet, without waiting to inquire what are the disadvantages, what the dangers, attending etherization, because it is said to relieve pain in labour, some women are found who yield to the false promises made to them, and seek for its use; and let them do so if they please, but do not let them any longer urge their friends to commit themselves to its baneful influence; for they should know that fatal consequences have ensued from the use of chloroform during parturition, its use having been sought exclusively owing to the urgent recommendations of near relatives: the feelings of these persons, under the circumstances, may be readily imagined." (p. 34-35.)

Dr. Merriman's pamphlet, as we have already remarked, is calculated to restrain ardent chloroformists, and to teach them that, without more precaution than they have hitherto considered it necessary to adopt, they may bring the use of anæsthetics into disrepute, and lead to their entire expulsion from the practice of midwifery. The great error in those who have sent their communications to the medical journals, has consisted in the fact, that they have not taken up the subject on sufficiently general principles.

"The writers alluded to mention a few cases, and generalize upon them; arguing thus from individual to general practice, not from general principles as laid down by experience, to individual cases, in which the general rules may be more or less departed from according to circumstances affecting the individual. My object will therefore be to study—first the history of midwifery with reference to the establishment of these general rules; secondly, the nature and properties of the anæsthetic agents; and thirdly, to endeavour to draw from these considerations the rules which should govern the profession in their employment of the agents." (p. 4.)

We need not enter into the analogical reasonings whereby the author supports his views. All experienced men agree that some well-known remedies, the employment of which is in general undesirable, are occasionally of great value to the accoucheur; and no one can doubt the propriety of the advice that nature should be allowed to conduct the whole process of the birth, the physician merely interfering when he finds morbid action commencing, or when the birth is impracticable without artificial assistance.

While Dr. Merriman admits that these vapours may act as poisons, and that great danger may arise from their cumulative properties, when employed by the inexperienced, he differs from Mr. Gream, in considering that they may occasionally be of great utility.

"Under the skilful hands of a person accustomed to administer the vapour, this tendency to an augmentation of the depressing effects of chloroform will be of slight moment; but if extreme care be not taken it may prove highly injurious, by suppressing altogether the powers of life. The employment of poisonous substances in medicine is by no means novel, for in all times some of the remedies best calculated to relieve pain and sickness, have been deleterious in certain doses, though in smaller quantities, eminently useful as medicine; but it is a perfectly new mode of proceeding when these anæsthetic agents are administered in such quantities as to suppress almost entirely the vital properties of the living system; the idea of so acting upon our fellow-creatures is pregnant with alarm; yet it has been satisfactorily proved that great benefit results from this use of the agents, not only in surgery, but also in operative midwifery. Surgical operations are constantly performed now without any suffering on the part of the patient, and it appears undeniable that in many cases he stands a better chance of recovering his health, than if the operation had been performed without the employment of an anæsthetic." (p. 14-15.)

Our author then examines the effects produced in the various stages of anæsthesia, tracing them up to the production of actual death. In the last stage we have a cessation of action in the muscles of the uterus, then in those of respiration, and finally in the heart itself. The continuance of the heart's action after other vital actions have ceased, might lead to a hope of recovery; but we believe there is no instance recorded, in which a person has been resuscitated after the cessation of respiration. The great difficulties connected with the employment of chloroform in midwifery-practice, are well set forth in the following paragraphs:—

"We see, therefore, that to produce the full effects of the anæsthetic employed, we must reduce the patient to a point very little separated from death itself; and this does seem to me to be an interference with nature of immense importance, and justifiable only under very peculiar circumstances. We have found that other practices have necessarily been abandoned, because they occasionally produced irremediable consequences, yet they apparently interfered less with Nature's processes than does the chloroform. The exhibition of chloroform is very much under control, but its paralyzing effects are so great in these latter stages, that a very slight increase in them may be decisive in destroying life, and this increase, at present, seems on some occasions unavoidable.

"I have alluded to a sufficiently sedative effect for purposes of midwifery being sometimes produced in the third stage; this may induce sleep on some occasions of excitement, and irregular pains, perhaps better than preparations of opium, but it will not be sufficient to prevent the occurrence of suffering in acute pain, and the continual administration of the chloroform will be very likely to bring on the fourth stage, unless very great care be taken in its administration. In practice, also, there will always be fear of impurities in the chloroform. Where an article requiring very nice manipulation is made in large quantities, persons must be employed who cannot exercise the same watchful vigilance over the processes, as the chemist would in making small quantities for his own use. It is therefore necessary, in considering the question, whether it is right to employ chloroform generally in midwifery, to recollect the probability of adulterations. I am not aware that there have been many instances known of injury from adulteration of chloroform, whether intentional or accidental, but the consequences of administering such mixtures might be very serious. The method of administering the anæsthetics is one eminently calculated to injure the delicate structures of the body, unless the vapours employed are quite pure. They are presented to an absorbing surface in a form calculated to pass into the blood with the greatest facility; if, therefore, there be contained in the vapour any deleterious adulterations (chlorine, or alcohol, for instance), great injury may result to the patient, and its further administration necessarily be at once omitted. Chloroform and ether both produce convulsive twitchings in some people; other anæsthetics produce them so strongly that they cannot be employed in medicine; may not this, therefore, be the consequence of using chloroform or ether which has been adulterated? That such accidents may be rare is my hope and fervent prayer, but it would be contrary to every experience to suppose that they will not occur." (p. 17-18.)

As to the rules respecting its employment, Dr. Merriman remarks—

"If, then, chloroform is to be used solely as an assuager of pain, it becomes necessary to inquire whether the pain endured, or the remedy administered to assuage it, is calculated to produce the most injury to the patient. Now we have ample evidence that the ordinary sufferings in labour, nay, even extreme sufferings, do not, in the vast majority of births, produce any permanent injury to the mother, but we have yet to learn that chloroform is equally exempt from such a tendency. We do not yet understand the way in which it acts upon the living system, but we do know that its action, when not limited by care in its administration, or when given in certain diseased conditions of the chest or brain, has a tendency to destroy life very rapidly; a property which requires extreme attention in using it at any time, and is sufficient to warrant abstinence from it altogether, except under peculiar circumstances. Given in proper doses, chloroform possesses most valuable properties as a sedative; hence its value in surgical and in obstetrical operations, to lessen the pain inseparable from the use of preternatural means to accomplish the delivery, and to prevent the patient's struggles." (p. 22.)

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"Whatever may be the real effect of the chloroform on the actions of the uterus, there appears no doubt that it possesses, in the majority of cases, the power of abating materially the excitement of the nervous system: that it thus conduces to sleep, which, under favourable circumstances, becomes natural, and thus invigorates the system more than artificial sleep can do, and that it lessens the shock to the nerves from the lengthened continuance or intensity of pain, and thus renders recovery more easy. In parturition, consequently, where the position of the fœtus in the womb, and the bony structures of the mother, might be expected to offer no unusual impediment to the birth, still, should the condition of the woman be such as to cause great fears that she cannot endure the pain of the birth without suffering material injury, chloroform may be administered with propriety. I have, however, shown above, that such cases can be very few, and scarcely come under the limits within which interference with nature can be allowed with impunity. The reasons, therefore, actuating the physician to allow the inhalation of chloroform in these simple cases must be exceedingly strong, or he will violate the law of non-interference with nature, founded on the experience of so many physicians of celebrity during a succession of years; and although he may not notice any immediate ill consequences, he must expect to find some sooner or later.

"Where the labour is more tedious, extending to twenty-four hours or more, or if the patient has, from the occurrence of false pains, previously to the commencement of her true labour, or from other causes, been deprived of her rest, and thereby rendered unequal to bear with impunity a recurrence of pains for many hours, chloroform may not improbably become a fit medicine to administer, to obtain that repose which other measures have failed to procure; but these other measures ought invariably to be tried first." (p. 23-24.)

The following words of advice should be borne in mind by those who are called upon to decide respecting the employment of chloroform in a particular case:—

"The more the powers of nature are studied in the act of childbirth, the less necessity will be found for the use of medical applications to relieve the suffering; so that I firmly believe that the administration of chloroform will be confined eventually to instrumental or very tedious labours. When the presentation of the fœtus is such as to require manual assistance before the birth can be effected, or where, from failure of the pains, or malformation of the pelvis, the pains are unable to accomplish their task, chloroform will frequently be found of great service; and if the patient's health be sufficiently good, the accoucheur will do well to recommend the inhalation. But even here he will not unfrequently find the artificial completion of the labour so easy, that inhalation seems superfluous; in some instances it

> would complicate, in appearance, a simple operation, and ought, therefore, to be avoided." (p. 26-27.)

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> "With the best intentions, our exertions will occasionally be insufficient to prevent a fatal consequence; they may even appear to have hastened it. If, then, a practice has been resorted to, the employment of which was not imperatively called for, and death ensues, whether arising directly from the treatment, or from other causes, how awful is the reflection that we have in even the slightest degree hastened the termination of life. Let us bear incessantly in mind, that ordinary cases require only ordinary means of relief, and that extraordinary remedies can only be properly employed in extraordinary cases, where ordinary means are inapplicable or insufficient." (p. 27.)

Mr. Stallard, the author of the third pamphlet, appears as a strong advocate of the use of chloroform. He candidly tells his readers, that this unlimited advocacy of what is now proved to be a dangerous agent is based upon his own successful employment of it; but we would here *in limine* refer him to the judicious advice given by Dr. Merriman. Sound medical experience regarding the safety or danger of any particular system of treatment, can never be derived from isolated trials. We must argue from general principles, and not from individual cases to which general rules may not be fairly applicable. With this remark, Mr. Stallard's pamphlet may be taken as a fair statement of the case for those who persist in the recommendation of the use of chloroform under all circumstances.

The positions assumed by the author in combating some of the objections to the use of chloroform in midwifery, are certainly of an extraordinary kind.

> "Another objection is urged against the state of anæsthesia; viz. that unconsciousness, or loss of mental power, also ensues. Dr. Ashwell has urged this objection in the following terms: 'Supposing the case to be a fatal one, a circumstance which must occasionally happen, I would not envy the remorse which must follow the conviction, that by such an event the momentous arrangements of a dying hour have been entirely prevented.' Much might be said upon this subject; but the question is at once answered by denying the production of entire unconsciousness: it is true that the senses are not in a most active condition in the first stage of anæsthesia, but the intermission of the chloroform will always (!) restore them after a few minutes, and the danger is never (?) so sudden and imminent but that it is anticipated by the medical attendant in full time for this restoration. But further, I may confidently appeal to all who may have witnessed so distressing an occurrence, and ask whether unconsciousness in *sudden death during delivery, or immediately after*, be not rather desirable than the contrary. The patient is surely not then in a condition to attend to the momentous question of salvation, for the powers of mind and body are convulsed by the suffering of the moment, and the most terrible restlessness only succeeds to the apathy and unconsciousness of rapid exhaustion." (p. 7.)

The author is here decidedly at issue with Mr. Gream, who considers, reasonably enough, as it appears to us, that if the degree of narcotism be slight, it will not prevent the sufferings of labour, and if great, that it will be attended with imminent danger. In the above remarks, Mr. Stallard appears to take no account of the cumulative properties of chloroform.

The author considers that the occurrence of a sense of suffocation is an indication of danger.

> "But it may be objected that this is not a certain safeguard in all conditions; occasionally a patient not fully insensible to the pain she is suffering is over anxious to inhale a more copious dose; in doing so she immediately becomes pallid, the pulse becomes quickened, and the respiration heavy; she is too insensible to be cognizant of the sense of suffocation, and the lungs become more and more congested. It is under these circumstances that chloroform is really dangerous; yet is this danger entirely obviated if the attention of the medical attendant be solely directed to its administration: he then watches with care the character of each inspiration; if it be deeper than usual, or if the air inspired be fully charged with chloroform, he removes the handkerchief and permits one or two inspirations of pure air; if the pulse become quickened, or the lungs oppressed, or the insensibility unnecessarily deep, he acts in the same manner. The restoration of pure air affords the most speedy relief; and, as in cases of hanging or drowning, the persons easily recover if they have been asphyxiated only a short time, so do they now recover if the state have only lasted a few seconds. In the exhibition of chloroform I recommend that the quantity inspired should never be sufficient to induce cough, irritation, or the slightest unpleasant sensation, and if any such symptoms occur, its exhibition should be suspended for a few

seconds. In the advanced stage, where it is required to keep up its effect, the medical attendant can alone supply the place of consciousness; and by his unremitting attention he must recognise the earliest approach to these serious indications. Entirely to prevent them, he must be careful not to exhibit too large a dose at once: indeed, I would recommend him never to allow the patient to breathe the vapour throughout an entire respiration; if the handkerchief be removed when half the inspiration is accomplished, the latter half will certainly secure a sufficiency of atmospheric air for the purposes of respiration. By observing these precautions I have repeatedly succeeded in administering chloroform to ladies of the most excitable temperament, and of delicate constitution, without hearing from them a single complaint; they have been kept under its influence for an hour to three hours respectively, without the least expression of pain or discomfort; and in one instance the patient was in the first stage of anæsthesia upwards of seven hours, without any other effect than relief from most severe pain, which would otherwise have induced great depression of the vital power." (p. 12-13.)

Mr. Stallard considers that chloroform may be used not only "without the least shadow of danger," but with positive advantage in all cases of labour, and especially in those which require the active interference of the accoucheur. The statement of his experience is decidedly in favour of the use of this agent; but he appears to us to have too much of that enthusiasm for its use, which marked the first introduction of chloroform as an anæsthetic. He differs from Mr. Gream, *inter alia*, in considering that the vapour exerts no injurious effects upon the child.

"Nothing but a very extended experience can justify any conclusion upon this head; as far as my own experience goes, I am decidedly of opinion that chloroform exerts no perceptible influence upon the child. Now, as I have had an unusually large proportion of still-born children in the cases I have attended this year, I must endeavour to show that they were clearly referrible to other causes. In the case of Mrs. P. related above, the chloroform was given for an hour and a half: at 3 P.M. the child was felt to be alive: at 6 P.M. she again took chloroform for ten minutes preceding the birth, which was at 10 P.M.; she was fourteen hours in active labour, and the pressure was sufficiently great to account for the death of the infant. The second was a case of placenta prævia, in which turning was had recourse to, but the hæmorrhage some time previously had been very severe. The third case was nearly like the first, with the exception that the patient had the chloroform for seven hours. This case has already been related; the death of the infant was clearly referrible to the extreme pressure to which it had been subject. The fourth case was also partial placenta prævia, in which hæmorrhage had existed at intervals for several months, and there was every reason to believe the infant had been dead some hours before delivery. She had the chloroform for one hour. The last case was a frontal presentation, occurring in a female aged 31, it being her first confinement. The labour had been lingering for three days, but it lasted eight hours in its acute form; she had chloroform during the last three hours. I have entered thus fully into the above cases, that it may be rendered more apparent that the still births were not caused by chloroform; but I may remark in addition, that other cases have occurred in which it was given for four hours, without the infant being at all affected, whilst in the first case in which I gave it the patient was kept in a perfectly *insensible state* for nearly two hours, and yet was the child born as healthy and as well as usual." (p. 18.)

With respect to the other uses of chloroform, he observes—

"Chloroform has been frequently used in dental surgery, and I have repeatedly given it in such cases. I do not, however, recommend either ether or chloroform in slight operations, unless the patient have the remedy administered before dinner, and FULL TIME be allowed for a short sleep after the operation is over: nothing is so important as REST AND SLEEP after the exhibition of chloroform; if sleep be not procured and permitted, sickness and a sensation of confusion frequently remain.

"One word on the comparison between ether and chloroform. I believe the former less dangerous, but more likely to produce vomiting, confusion, and other bad symptoms; whilst the chloroform is more likely to produce asphyxia." (p. 20-21).

We have here allowed the authors to speak for themselves, by making copious extracts from their respective essays. Although much of the interest connected with the subject has died off, it is desirable to hear occasionally what an opponent, an advocate, and an *amicus curiæ*, have to say on the subject.

Our readers will, perhaps, agree with us, that Mr. Gream is as sweeping in his condemnation as Mr. Stallard is in his praise of the employment of anæsthetics in midwifery. Mr. Gream's pamphlet is certainly required to check the ardour of many young accoucheurs, and even if considered to be marked by something like a bias against etherization, the wide circulation of it will be attended with good. Mr. Stallard's essay is a reflection of his own observations in a limited number of cases; and it will serve hereafter for the medical historian who is desirous of balancing the individual experience of practitioners on this singular discovery. Dr. Merriman's pamphlet, which is very concisely written, contains such a fair summary of the advantages and disadvantages of chloroform, that it is sure to command an attentive perusal, and will be read by all with profit.

The Baths and Watering Places of England, considered with reference to their curative efficacy, &c. By Edwin Lee. 2d edition, small 8vo. pp. 212. London: Adams, 1848.

Mr. Lee is an industrious writer, and has shown himself equally ready to deal with subjects of a grave character, *e. g.* Medical Reform, or with those which concern health, topography, and climate, and which are especially adapted for the perusal of invalids. The little guide-book before us has reached its second edition—a proof that the author's labours in this line are approved by that large class of the population which is always seeking the restoration of health by a temporary residence at Baths and Watering Places. In the first part, we have an account of those localities which are characterized by thermal and slighly mineralized springs. These are not very numerous. In the second part we have the Saline, Aperient, and Chalybeate Springs. Such a division is artificial and arbitrary. Thus, Bath might come under either head, but it is here separated from the Chalybeate Springs. Part 3rd is devoted to a topographical and climatic description of the principal places of winter-resort on the English coast. Mr. Lee has given a concise, but, as far as we can judge from our knowledge of several localities, a very fair account of these sanitary resorts. The chemical properties of the different waters, with their uses in various forms of disease, are described at sufficient length for the non-medical reader. In the topography, there is much of that common-place character, which we are accustomed to find in the ornamental guide-books met with in the libraries of Watering Places. What, for example, in the description of Bournemouth, is the meaning of this passage, coming from the pen of a medical writer?—"The emanation from the pine-wood is highly salubrious and beneficial to persons labouring under pulmonary disease." This is surely a far-fetched idea derived from some ingenious non-medical author, who wishes to make the most of the botany and geology of his favourite spot. The remarks on the employment of Mineral Waters, and on bathing and Sea-Baths, are well worthy of perusal.

On the whole, we are inclined to think that this little volume will be found a very useful companion to those who resort to the Baths and Watering Places of England.

Principles of Medicine, comprising General Pathology and Therapeutics, &c. By C. J. B. Williams, M.D. F.R.S., Prof. of the Principles and Practice of Medicine, &c., University College. 8vo. pp. 553. 2d edition. London: Churchill. 1848.

We regret that we have not before found an opportunity of announcing the appearance of a second edition of this excellent work. In the course of five years, the author has found occasion to add considerably to the contents of the volume, and it may be as well to point out the principal additions which have been made. In the etiological portion, they refer to the mechanical, chemical, and dietetic causes of disease, defective cleanliness, ventilation, and drainage. In pathology, the tabular views of the elements of disease; reflex action and sympathy; elementary changes in the blood; congestion; determination of blood; inflammation; degeneration of textures; cacoplastic and aplastic deposits, with a chapter on Hygienics, comprising food, clothing, air and temperature, exercise, mental occupation, sleep, and excretion.

Dr. Williams struck out a new path in the publication of his Principles. Instead of giving a dry description of diseases, with their special symptoms and treatment, he takes a comprehensive view of practical medicine in its relations to general pathology and therapeutics. That he has succeeded in his object is sufficiently apparent by the reputation which his work has already acquired, and in the early demand for another edition. His mode of treating the subject is in many respects so novel, that his treatise will be found a most useful addition to a medical library, however rich in works on practical medicine. The seventh chapter, on Hygienics, is in itself a most valuable essay on an important subject hitherto much neglected by English medical writers. The prevention of disease has up to the present time excited less attention than its removal by treatment. There is, however, now a complete change of opinion. The great sanitary movement is striking at the root of the causes of disease; and the chapter on Hygienics, inserted in the volume before us, is well calculated to aid the efforts of philanthropists, by directing the attention of practitioners to the injurious influence on health of a neglect of dietetics, clothing, ventilation, and exercise.

It is scarcely necessary to say that we think highly of this volume. The author has obviously bestowed great pains in keeping it up to the level of the present state of scientific medicine. Unlike some writers, as actively engaged in practice as himself, he has not been satisfied with a mere reprint of a former edition, but has so improved the work as to render it a desirable addition to the library of every practitioner. We shall conclude with one word of advice—namely, that a third edition should not be allowed to appear without a copious index. No table of contents, however full, can make up for the want of an index to a volume which must fall into the hands of men whose time is valuable, and who will put down a book in despair if they cannot refer immediately to a subject on which they desire information. We know that this suggestion will impose additional labour on the author, but it will add considerably to the value and utility of his treatise. The omission of an index to a work of authority we hold to be, in general, an indication of laziness in a writer: he imposes upon the possessors of his book a large amount of trouble, in order that he may save himself from some inconvenience. Such an imputation cannot rest upon Dr. Williams, since the contents of his volume afford sufficient evidence of extensive research and great industry. It is therefore the more surprising that he has not supplied this palpable deficiency.

Correspondence.

LITERARY PIRACY.

SIR,—The following note, which I think requires no explanation, was sent to the editor of the *Lancet* nearly five weeks ago. The note and the receipt of the pamphlet were acknowledged the next week. In the following *Lancet* it was stated that "the contributor of the article was in the country," but that, on his return, the circumstances should be made public. Two *Lancets* have since been published, but no further notice has been taken of the matter. I think you will agree with me that this is not just. As it must be evident that my property has been purloined by some one, I conceive that it was not too much to expect that the mistake—*if, indeed, it be a mistake*—should have been publicly acknowledged before this.

I shall be obliged by the insertion of this and the following in your next number, and am,

Yours very truly,
H. M. HUGHES, M.D.

14, St. Thomas's Street,
Sept. 2, 1848.

"*To the Editor of the Lancet.*

"SIR,—I beg to inform you that the 'Statistical Researches on Chorea' in the 'Foreign Department' of your number for July 15th (page 73), attributed to '*Dr. Easelmann*,' who is stated to have collected the cases from various sources, are derived solely and entirely from a paper of mine in the 4th volume (New Series) of the Guy's Hospital Reports, of which paper, entitled 'Digest of One Hundred Cases of Chorea,' *I herewith enclose you a copy.*

"I beg also to inform you that the materials from which that paper was composed were collected solely and entirely by myself from the records of Guy's Hospital.

"I shall therefore, sir, feel obliged to you to correct the mistake into which you have fallen, by the introduction of this note into your next number; and I shall feel additionally obliged if you will kindly inform the professional public and myself from what source you derive the facts incorrectly attributed to '*Dr. Baselmann*,' of whose name I do not recollect to have previously heard.*

"I have the honour to be,

"Yours &c. &c.

"H. M. Hughes, M.D.

"14, St. Thomas's Street,
August 5, 1848."

ERRONEOUS ENTRIES IN THE MEDICAL DIRECTORY.

[We have received a letter on the above subject from a respectable source; but as the writer does not wish his name to appear in reference to a statement upon which we have no authority but his own, we are compelled to omit the first portion of his letter. We insert that part of his communication which is less open to objection; but we are sure the editors of the Directory will be thankful to him for any private information which he may forward to them on the erroneous entries to which he refers.]

The Directory abounds with errors of another description, which, though venial compared with the above, are yet likely to prove sources of inconvenience and confusion. I allude to the insertion of high-sounding, but meaningless titles, and to errors in dates. Thus we find the following:—

"Cockle, Jas., 48, New Ormond Street. In practice before the year 1815; matriculated at the University of Edinburgh, 1801."

The matriculation at Edinburgh is open to any one paying ten shillings and sixpence, and is exacted from all students before they are allowed to fee any of the professors in Divinity, Literature, Law, or Medicine. Mr. Cockle may or may not have attended lectures at Edinburgh. The matriculation is no proof that he has: but, if it were, is the fact of any value?

Of the typographical errors in dates, there are not a few: for example, Dr. Lonsdale, of Carlisle, is represented as having graduated in 1833, in place of 1838.

Your obedient servant,

Argus.

August 26th, 1848.

Medical Intelligence.

OBITUARY MEMOIR OF THE LATE BARON BERZELIUS.

We recently announced the death of the celebrated Swedish chemist, Berzelius, in the 69th year of his age. He had been for a long time in declining health,—and, although his death will not have taken Europe by surprise, there will be but one feeling of grief for so great a loss. In a century which has produced a greater number of distinguished chemists than perhaps of any other class of men of science, Berzelius stood out as a star of the first magnitude. If, perhaps, our younger students of chemistry have in some measure lost sight of him, amidst the brilliant researches of modern organic chemists, it must not be forgotten that the patient labours and sagacious investigations of Berzelius have done more to lay the foundations of organic chemistry than those of any other chemist. To him more than to any other man belongs the honour of applying the great principles which have been established by Dalton, Davy, Wollaston, Gay-Lussac, and himself, in inorganic chemistry, to unfolding the laws which regulate the combinations forming the structures of the animal and vegetable kingdoms.

It is to the honour of Sweden that Berzelius is only one of a number of her sons whom the cultivation of natural science has led from poverty and obscurity to the highest dignities and emoluments bestowed by the state. Of humble parentage, and beginning life with limited resources, the successful cultivation of chemistry procured for him, not only the respect and admiration of the world, but that position and consideration in his own country which the man of science has a right to claim, and which it is the privilege of sovereigns and states to bestow.

Berzelius was born in the village of Väfversunda, in the canonry of Linköping, in Ostgothland, on the 29th of August, 1779,—not at Linkagring on the 20th of August, as is often erroneously stated in the many notices of him. His father kept the parish school in the village where young Berzelius was born, and there he appears to have received his early education. At the age of seventeen he commenced his studies at the University of Upsala, hoping to qualify himself for the medical profession. At this time, although Sweden could boast of having produced a Bergmann and a Scheele, the more brilliant genius of Linnæus had given to natural history such an impetus that chemistry was scarcely regarded by the medical student. It is true that Afzelius, who was a nephew of Bergmann, and then filled the Chemical Chair at Upsala, had performed some very creditable chemical analyses; but his health was bad, and he was assisted by Ekeberg, who, though a skilful analyst, yet wanted the energy and other qualifications for a successful teacher. The lectures on chemistry were read, and no experiments were performed. These unpromising circumstances were scarcely likely to produce a great chemist, but they seem to have developed the genius of Berzelius. Prof. Johnston gives Berzelius's own account of the influences of his situation. The students were allowed to work in the laboratory once a week. "Berzelius, like the rest, went to the laboratory soon after he had commenced his chemical course, and asked for an operation. The first that was given him was to form colcothar of vitriol (crocus martis) by heating sulphate of iron in a crucible. 'Well,' says he, 'every servant can do this. If this be all I am to learn I may as well stay away.'—'Oh, but,' replied Afzelius, 'your next operations will be more difficult.' Accordingly, when he asked for a second operation, he was instructed to prepare caustic potash by burning cream of tartar in a crucible. 'This so disgusted me,' said Berzelius, 'that I vowed I would never ask for another operation. Still I frequented the laboratory; and at the end of three weeks found myself attending regularly every day, though I had no right to do so, and Afzelius could have turned me out, yet I was allowed to return and operate and break much glass,—while Ekeberg especially was much annoyed that I never asked a single question.—For,' he adds, 'I liked better to seek for information from reading and thinking and experimenting than from men who, having little experience themselves, gave me, if not evasive, at least unsatisfactory, answers regarding phenomena they had never themselves observed.'"

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* *Baselmann* is not German. It is probably misprinted for *Eselmann*:—*Esel* signifying one of the Asinine species.

In the year 1798, Berzelius passed his philosophical examination as preparatory to the final one for M.D. At this time he left the University; and in 1799 we find him assistant to a Dr. Hedin, a superintendent physician of the mineral waters of Mediva. The composition of these waters attracted the attention of Berzelius, and his first published essay was a dissertation, in conjunction with Ekeberg, on these mineral waters. He underwent the examination for a license to practise medicine in 1801, and graduated at Upsal on the 24th of May, 1804. On leaving Upsal, Berzelius repaired to Stockholm, where he became assistant to Andrew Sparrman, who sailed with Cook in one of his voyages round the world, and was then professor there of medicine, botany, and chemical pharmacy. Sparrman died in 1806,—and Berzelius, by his inaugural dissertation on galvanism and other papers, had already obtained for himself a sufficient degree of confidence to be appointed his successor. Although this chair embraced a very wide range of subjects, as was frequently the case with Swedish chairs at that time, Berzelius more especially devoted himself to chemistry. It does not appear, indeed, that he gave any lectures on botany, except at the Military College of Carlberg, where he also held an appointment as lecturer. At first he was not more successful in teaching chemistry than his predecessors; but having received a hint from Dr. Marcet, of Guy's Hospital, London, that chemical lectures should be illustrated by experiments, he adopted this plan, and likewise abandoned the old practice of reading lectures. He used to express himself very strongly on the inutility of merely reading lectures. Although he first adopted Dr. Marcet's experiments in his class-room, he soon so far improved upon these that his own became a model for the chemical class-rooms of Europe.

During the early period of his residence at Stockholm, he practised the profession of medicine; and in 1807, was mainly instrumental in forming the Medical Society of that capital. In 1810, he was made President of the Royal Academy of Sciences at Stockholm; and in the same year received the appointment of Assessor of the Medical College, and was made a member of the Royal Sanitary Board. At this time, though scarcely more than thirty years of age, he had obtained great reputation as a chemist. He had published a work on animal chemistry, containing many original investigations on the fluids of the animal body; and which was subsequently translated—as, indeed, have been most of his works—into almost every language of Europe. In conjunction with Hisinger, he commenced, in 1806, the publication of a periodical work, entitled "Afhandlingar i Fysik, Kemi, och Mineralogi," which contained a series of papers by himself, constituting some of the most valuable contributions that had yet been made to analytical chemistry. His labours were regarded as of so much importance by the Royal Academy of Stockholm, that that body decreed him, in 1811, 200 dollars yearly for his chemical researches. In 1812, Berzelius visited England, where he was most cordially received. In that year he communicated, through Dr. Marcet, a valuable paper to the Medico-Chirurgical Society of London, "On the Composition of the Animal Fluids." In 1818, he visited France and Germany—countries in which he was better known than in Great Britain, as most of his papers and works were published in the language of those countries as well as in that of Sweden. In the same year he was appointed Secretary to the Academy of Sciences—a post which he held till his death. In 1831, he was allowed to retire from the active duties of his professorship at the Caroline Institute, but he still held the title of honorary professor. Up to this time he had resided in apartments provided for him at the building occupied by the Academy of Sciences, where, on the same floor, he had his study and laboratory, so that he could with little difficulty pass from his desk to his crucible, and husband his time to the greatest possible extent. He now, however, moved to a house of his own, and in 1835 married a daughter of the town-councillor (Staats-rathe) Poppius. In 1837, he received the Great Gold Medal of the Royal Academy of Stockholm,—and in 1840, the Diet of Sweden voted him a pension of 2,000 dollars per annum. The scientific societies of Europe and America contended for the honour of enrolling his name amongst their members,—and with eighty-eight of these bodies it was connected. Nor was his sovereign, Charles John, behindhand in recognising the most distinguished of his adopted countrymen. In 1815, Berzelius was made a Knight, and in 1821, a Knight Commander, of the Order of Vasa. In 1829, he received the Grand Cross; and in 1835, was made a Baron. The intelligence of this honour was conveyed to Berzelius by the hand of the King, who wrote himself a letter intimating his deep sense of the merits of the philosopher, and expressing a hope that in this nomination the world would recognise a homage paid to the man who had consecrated his life to those useful researches which had been already recognised by Europe, and which it was the glory of Sweden to be able to appropriate as the patrimony of one of her children. This letter was sent to Berzelius on his wedding-day. How few men of science have married with a patent of nobility on the breakfast table! Sweden had, however, yet one more ovation for her beloved son. In 1843, he had been a quarter of a century Secretary to the Academy, and on this occasion a festival was given in his honour. The Crown-Prince was in the chair,—and a portrait of the chemist, painted by Lieut.-Col. Sodemark, was presented to the Academy.

Such was the calm, unruffled, successful career of the deceased philosopher. Would that the career of every disciple of science were as happy! He who was thus honoured, merited it—merited it on account of his unwearied industry, his clear and manly intellect, his noble and amiable disposition. The diligence with which he worked, both in his study and his laboratory, may be judged of by his systematic works and original contributions to science. In addition to the works already mentioned, he published a "Manual of Chemistry," which went through several editions, that of 1841 consisting of ten volumes,—and, we believe, another larger edition has since been published. In 1822, he commenced the publication of an Annual Report on the Progress of the Physical Sciences, which has been published every year to the present time. These volumes are the most valuable record of chemical research extant, and contain a full report of the discoveries that have made the period to which they relate so remarkable in the history of chemistry. From 1806 to 1818, he published, with Hisinger, the periodical to which we have before alluded; and in these volumes we find forty-seven papers by Berzelius, all giving an account of original researches by himself. In addition to these, he has published works on galvanism, on analytical chemistry, on mineralogy, and a vast number of papers in various Transactions.

The name of Berzelius has been too intimately connected with the history of chemistry for the last forty years for us, in this slight sketch, to give an adequate idea of the influence which his discoveries and generalizations have exerted upon the science. To him it is indebted for the discovery of several new elementary bodies,—more especially selenium and cerium. He first demonstrated the acid nature of silica, and was thus enabled to throw light on the composition of a series of interesting mineral compounds of silica with the metallic oxides. This subsequently led to an entire re-arrangement of the mineral bodies, and contributed greatly to the advance of mineralogy. His discovery of selenium led him to investigate its various compounds, and compare them with the sulphurets. These investigations again resulted in his generalization on the nature of the sulphur salts, and a new classification of the various salts. Subsequently, he investigated the compounds of fluorine, and arrived at some of the most important and valuable results that have yet been obtained by the analytical chemist.

Whilst Berzelius was writing the first edition of his "Manual of Chemistry," Dalton had promulgated his idea of the atomic constitution of matter, and Davy had made his great discovery of the metallic bases of the alkalies. These directed his attention to the laws of combination. He was led to institute researches with the most scrupulous care into the combining proportions of the various elements, giving to each its correct number, and was enabled to obtain results perfectly harmonious with theoretical calculations made on Dalton's laws. He was enabled to extend Dalton's law that one atom of one body unites with one, two, or three, &c. atoms of another body, and showed that two atoms would unite with three and with five. He also pointed out the great fact, that two compounds which contain the same electro-negative body, always combine in such proportions that the electro-negative element of one is a multiple by a whole number of the same element of the other. He not only gave to the elementary bodies their combining numbers, but introduced the system of symbols, by which chemical labour has been so greatly facilitated. Till the time of Berzelius, organic chemistry was a waste, with here and there an attempt to explain the phenomena of living beings upon chemical principles,—and which, from the entire want of experimental foundation, was even worse then useless. The compounds found in plants and animals were not supposed to come within the category to which the laws of combination applied. Berzelius was the first to show that these laws could be applied to animal and vegetable products; and in so doing, he opened the way for the discoveries of Mulder, Liebig, Dumas, Boussingault, and others.

As a skilful manipulator, Berzelius has had few equals in the history of chemistry. To this we are indebted for the immense variety, number, and success of his analyses. Many of the analytical processes in use at the present time have had their origin with him.

The personal appearance of Berzelius was that of a strong, healthy man, with nothing in his habits or manners to impress a stranger with a sense of his powers. A chemist who visited him says, "He has nothing of pretence, reserve, or singularity about him; so that his plainness drew from a fellow-traveller of mine, whom he allowed me to introduce to him, the observation, 'I would never have thought him the great man he is said to be.'" His attention to strangers was very great,—especially to those who took an interest in chemistry. With these he would frequently spend hours in his laboratory, explaining to them his methods of working; and on their departure, he left the impression that he was the honoured party. He was an early riser,—and gave the first part of the day to his most important work, whatever that might be. He seldom either wrote or experimented in the evening, leaving that part of the day for reading and social relaxation. He had no particular times for writing or experimenting; when he had a work to finish he would write sometimes for months without performing an experiment,—but if anything of importance occurred to him during his writing requiring further investigation, he would at once give up the pen, and work perhaps for weeks in his laboratory. Few men were more beloved in the city of Stockholm than Berzelius.

Were the merits of this great chemist less, we might not be able to afford to hint at any defects. But, regarding him at a distance, he appears to us to have carried his caution beyond the requirements of scientific research. His feelings were conservative, and though constantly going forward to the new, he still clung with tenacity to the old. He was almost the last chemist of eminence that admitted Davy's theory of the elementary nature of chlorine. Even after envy and prejudice had given up their opposition, the caution of Berzelius withheld assent. In the recent advances of organic chemistry, also, and more especially in its applications to the physiology of plants and animals, Berzelius has looked on with the eye of a critic, and withheld to the last his adhesion to some of the advanced positions of this department of the science. We will allude to his criticisms on his brother chemists, which were sometimes unnecessarily severe, only to add that in the latter years of his life he has been heard to say that he regretted having expressed himself in a way that could have given unnecessary pain to others.—*Athenæum.*

THE CHOLERA IN EGYPT.

THE cholera alone occupies the minds of the inhabitants of Alexandria; there is no business doing, and the greater part of the European residents have shut themselves up in their houses, hoping by this means to keep out of the influence of the epidemic. At Alexandria, the number of deaths from cholera has been rather on the decrease, and from 310, the highest point attained, they are now about 100 daily; the number just reported for to-day is 75.

At Cairo, after a decrease, the deaths from cholera were again on the increase; about 250 were reported daily, but to-day the report has gone down to 170. A register is kept of the deaths only; the number of cases is not known, but the recoveries are said to be few. Comparatively speaking, the European population has not suffered much; and the mortality among the natives may be attributed to their improper mode of living, and their irregularities and sufferings during the present month of Ramazan, when they fast all day and commit excesses during the night.

The *Deutsche Allgemeine Zeitung* has letters from Gallicia, of the 17th, stating that the cholera was making rapid progress in that province, and had advanced as far as the circle of Wadowitch, which touches the frontiers of Silesia. In the last-mentioned province, some cases have already been declared. It is said that of 14,000 men who formed the Russian corps which entered Wallachia, 1800 have died of cholera.

Letters from Stettin of the 19th, announce 21 cases of cholera up to the evening of the 15th, whereof 19 proved fatal. Among the victims, was Lieutenant-Colonel Schmidt, of the 9th regiment. The first victim of the disease in Damm, was a healthy and robust young man, who succumbed, after excruciating agonies, which lasted eight hours.

The *Augsburgh Gazette* has letters from St. Petersburgh, to the 12th August, which inform us that the cholera had so far subsided, that several temporary hospitals and lazarettos have been closed. 163 deaths occurred between the 4th and 10th August. In Moscow and Riga, the malady is gradually subsiding, but, on the other hand, it rages in Pskow, where, in the space of seven days, 111 patients, out of 264, succumbed, and only 27 recovered.

ERGOT OF RYE A REMEDY FOR EXCESSIVE DILATATION OF THE PUPIL FROM BELLADONNA.

M. Comperat has announced a plan by which he has succeeded in removing dilatation of the pupil produced by belladonna in a patient of his, in whom the iris was scarcely visible, so complete had been the action of a small dose of belladonna applied externally. For some days the excessive dilatation resisted the employment of various collyria. He prescribed powdered ergot of rye, taken like snuff. The dilatation disappeared in a few seconds—it soon returned, the same remedy was again employed, and it did not reappear. He thought that ergot might be thus used in cases in which dilated pupil arises from other causes.

Z.

OBITUARY.

At the latter end of May, John Rolph Lee, Esq., M.D. This promising gentleman lately graduated at M'Gill College, Canada, and was on his return homewards, when, in crossing the Grand River at York, the canoe upset, and he was drowned.

Suddenly at Windsor, N. S., the 4th ult., Francis Carten Pike, Esq., Surgeon, a native of Hampshire, England, aged 64 years.

At St. Louis, Kamouraska, on the 23d ult., Thomas Horsman, Esq., M.D., aged 63 years. Mr. Horsman was born at Swinton, parish of Markham, Yorkshire, England. His father, a wealthy farmer, gave him a liberal education, and apprenticed him to the celebrated Dundas, then apothecary to George the Third. A short time after he emigrated to the United States, whither he followed an elder brother. Little satisfied with the national habits of our neighbours, to which he could not conform, after a sojourn of less than two years he quitted the United States for Canada, a little before the war of 1812. He studied at Quebec with the late Dr. Francis Blanchet, who had him appointed surgeon during the last war, and placed over a hospital. In 1815, the hospital being closed, Dr. Horsman removed to Kamouraska, where his professional services, his sensibility, and, above all, his charity towards the poor, gained him the esteem and confidence of all.—*Quebec Mercury.*

On the 29th ult., at Coté St. Paul, Dr. William Dunlop, aged 57, late M.P.P. for Huron, C. W. Dr. D. was the first lecturer on Medical Jurisprudence in Great Britain.

SUBSCRIPTIONS IN AID OF THE POOR-LAW MEDICAL RELIEF FUND.

Sir,—When the great meeting of Poor-Law Medical Officers assembled in London last October took place, and a Committee to act on their behalf was appointed, it was obvious that considerable expenses must be incurred. Their labours involved charges for advertisements, printing, stationery, postage-stamps, and the salary of an assistant-secretary. The National Institute, however, favoured the Committee with the free use of their office.

To defray the expenses which were unavoidable, subscriptions of small sums from some of the Poor-Law surgeons have been received, and a handsome donation of ten pounds from Mr. Pennington, the President of the National Institute. But when it is considered that papers were to be forwarded to 2914 medical officers of Unions, the correspondence which ensued, with the various items of expense already mentioned, it cannot be matter of surprise that further contributions have become indispensably necessary.

By the statement of account appended to the report recently issued, there was a small sum in hand, since which, however, the balance of account is on the other side.

The perusal of the Report, of which a thousand copies have been printed, with an equal number of the Address to the Public, will show that the labours of the Committee have been of no small amount; in fact, much more considerable than is generally supposed. Gentlemen have come up repeatedly from Buckinghamshire, Derbyshire, Staffordshire, and even Lancashire, devoting their invaluable time, and at no small expense, to the object in view.

Those members of the committee who reside in the metropolis and its neighbourhood have been able to give a more frequent attendance; still, at some expense, and the application of valuable time and of earnest and patient thought.

Under these circumstances, the profession at large would not wish the members of the Committee to be without pecuniary resources to defray the very moderate but essentially necessary official expenses which will accrue. And it is acknowledged, that not only the Poor-Law surgeons immediately interested, but the whole profession, should unite in giving support to the cause, as unquestionably the credit, respectability, and honour of the whole medical profession, of which we sometimes boast, may fairly be considered as identified in the cause of the Poor-Law surgeons.

The Report has been reprinted, more or less fully, in the medical journals, also in the pamphlet form, which, with the address to the public, was offered to the acceptance of gentlemen attending the recent meeting at Bath; and I shall be happy to forward copies to those who have not yet seen it.

I shall now be glad to receive subscriptions towards defraying the expenses necessarily incurred for official purposes by the Committee, by post-office order or otherwise.—I am, sir, &c.

THOMAS MARTIN,
Treasurer of the Poor-Law
Medical Officers Committee.

Reigate, August 28, 1848.

METEOROLOGICAL SUMMARY.

Mean Height of Barometer		29·93
" " Thermometer[a]		59·7
Self-registering do.[b]	max. 92·5	min. 38·
" in the Thames water	— 63·4	— 60·

[a] From 12 observations daily. [b] Sun.

RAIN, in inches, 0·91: sum of the daily observations taken at 9 o'clock.

Meteorological.—The mean temperature of the week was about 2° above the mean of the month (57·8).

BIRTHS & DEATHS IN THE METROPOLIS

During the week ending Saturday, Sept. 2.

BIRTHS.		DEATHS.		*Av. of* 5 *Sum.*	
Males....	688	Males....	528	Males....	495
Females..	640	Females..	470	Females..	477
	1328		998		972

CAUSES OF DEATH.		Av. of 5 Sum.
ALL CAUSES	998	972
SPECIFIED CAUSES	996	968
1. *Zymotic* (or Epidemic, Endemic, Contagious) *Diseases*	397	257
Sporadic Diseases, viz.—		
2. Dropsy, Cancer, &c. of uncertain seat	38	45
3. Brain, Spinal Marrow, Nerves, and Senses	95	120
4. Lungs and other Organs of Respiration	72	80
5. Heart and Bloodvessels	24	28
6. Stomach, Liver, and other Organs of Digestion	63	79
7. Diseases of the Kidneys, &c.	16	8
8. Childbirth, Diseases of the Uterus, &c.	8	10
9. Rhematism, Diseases of the Bones, Joints, &c.	7	7
10. Skin, Cellular Tissue, &c.	2	1
11. Old Age	36	50
12. Violence, Privation, Cold, and Intemperance	50	8

The following is a selection of the numbers of Deaths from the most important special causes:

Small-pox	31	Paralysis	13
Measles	9	Convulsions	20
Scarlatina	137	Bronchitis	24
Hooping-cough	22	Pneumonia	31
Diarrhœa	79	Phthisis	107
Cholera	7	Dis. of Lungs, &c.	8
Typhus	63	Teething	10
Dropsy	14	Dis. Stomach, &c.	5
Sudden deaths	8	Dis. of Liver, &c.	11
Hydrocephalus	20	Childbirth	8
Apoplexy	17	Dis. of Uterus, &c.	0

REMARKS.—The total number of deaths was only 26 above the weekly summer average. The deaths from zymotic diseases are, however, disproportionately great, and it is worthy of remark that scarlatina is especially fatal, the registered deaths being no less than 137 to a weekly average mortality of only 37! Of these deaths, 135 were among infants.

BOOKS RECEIVED DURING THE WEEK.

Etiological, Pathological, and Therapeutical Reflections on Asiatic Cholera as observed in Europe, Asia Minor, and Egypt. By A. Henriques, M.D. F.R.C.S.L.

A Few Plain Directions for the Homœopathic Treatment and Prevention of British and Asiatic Cholera.

Pharmaceutical Journal. September 1848.

The Ethnological Journal, No. 4. A Magazine of Ethnography, Phrenology, and Archæology.

Journal of Public Health. September 1848.

British Record of Obstetric Medicine. No. 17.

Casper's Wochenschrift für die gesammte Heilkunde. Nos. 32 and 33, 5th and 12th August.

London, Edinburgh, and Dublin Philosophical Magazine. September 1848.

Zeitschrift für die gesammte Medicin, von F. W. Oppenheim. Nos. 4, 5, 6, 7, April to July 1848.

NOTICES TO CORRESPONDENTS.

The communications of Mr. Hancorn and Mr. J. D. M'Donald will be inserted in the following number.

Mr. Coates's letter, with the drawings, has been [received.

Mr. Lord's letter in our next.

Dr. T. Haworth.—Has our correspondent found by experiment that he can safely respire air through an aqueous solution of chlorine, and, if so, for how long a period, and of what strength was the solution? At present it appears to us his plan would substitute one poisonous gas for another; for they who have been exposed to the respiration of chlorine, are well aware that it has a most powerfully irritant action on the lungs. We wait far an answer to this question before inserting the paper.

Corrigendum.—In our last number, page 377, col. 1, 26 lines from foot, for "58°.5," read "— 58°.5."

THE GENERAL INDEX.

We have to announce to our Subscribers that a GENERAL INDEX to the *first* 40 *Volumes* of the LONDON MEDICAL GAZETTE will, it is calculated, form a large Volume of about 700 pages. The cost of the INDEX VOLUME, respecting which many inquiries have been made, will be Twenty-four Shillings; and it is proposed to commence it so soon as the Names of *Five Hundred Subscribers* have been obtained.—The printers, Messrs. WILSON AND OGILVY, 57, Skinner Street, will receive the Names of Subscribers.

Lectures.

COURSE OF SURGERY,

Delivered in the years 1846 *and* 1847,

By Bransby B. Cooper, F.R.S.

Surgeon, and Lecturer on Surgery at Guy's Hospital.

Lecture XXXVIII.

Strangulated hernia — characteristics — symptoms—stercoraceous vomiting—progress of symptoms—alteration in physical characters of the tumor indicating gangrene—distinctive marks between strangulation of intestine and omentum—diagnosis between strangulated and obstructed hernia—general treatment of strangulated hernia—taxis—question as to immediate operation—use of opium—cases — inguinal hernia—varieties — oblique inguinal hernia—subdivided into bubonocele, oscheocele, and congenital.

Strangulated bubonocele — diagnosis is sometimes difficult—cases—taxis—direction of the force—operation—division of the stricture external to the sac—opening the sac—comparative danger of the operations—cases—congenital bubonocele —difficulties that may arise in the operation from the contents of the tumor—cases—on the division of the stricture—case—on returning intestine after the division of the stricture—cases—adhesions to the sac or omentum.

Oscheocele—coverings—strangulated scrotal hernia—taxis—operation—congenital scrotal hernia—situation of testicle—difficulties in operation—case.

Strangulated hernia.—A hernia is said to be strangulated, when its contents are so constricted at the outlet through the fascia as to prevent the performance of the natural function of the bowel.

In strangulated hernia, the symptoms often follow immediately upon the protrusion, and they are severe in proportion to the degree of constriction to which the bowel is subjected. Usually the first symptom complained of is the sensation of tightness around the scrobiculus cordis; and this is sometimes so acute as to render the patient incapable of maintaining the erect posture. Vomiting soon comes on, and this symptom is more or less severe, according to the proximity of the strangulated portion to the duodenum. Obstinate constipation also forms a prominent feature in strangulation, which is generally attended by great anxiety of countenance, restlessness, small, quick, and hard pulse, and a general sensation of coldness over the whole surface of the body. If these symptoms continue for any length of time, the vomited matter frequently acquires a fæcal or stercoraceous odour: this circumstance has led some surgeons to suppose that the contents of the large intestines are regurgitated. I do not, however, think this possible, but believe the odour to proceed from the retention of the contents of the small intestine, and not from feculent mattter passing back through the ileo-colic valve. If the strangulation be not overcome, hiccup very soon supervenes, the surface of the body becomes covered with a cold sweat, the pulse is scarcely to be felt, the respiration weak and irregular, and the pain becomes gradually less severe. The physical characters of the tumor now begin to change, the skin becomes discoloured, and, on pressing the tumor, a fluctuation is felt, instead of the tension which before characterized it,—these are indications that the bowel had given way from mortification. If such urgent symptoms were to succeed each other rapidly, it would lead to the diagnosis of *intestine* being the subject of strangulation,—for where *omentum* alone is protruded and strangulated, although the above symptoms may occur, they are always in a milder form, and very frequently alvine evacuations may be produced by purgative remedies, while, with the exception of the constipation, all the other symptoms remain. Even when evacuation does take place, you must not be too hasty, gentlemen, in forming a favourable prognosis,—for, although this one symptom is relieved, the others may remain insidiously operating on the constitutional powers, to the ultimate destruction of the life of the patient. It does not necessarily happen that the acute form of strangulated hernia should result immediately upon protrusion; for my late colleague, Mr. Wilkinson King, has shewn from a statistical account of 98 cases of strangulated hernia requiring operation, that 94 of them became strangulated at various distant periods after their protrusion. He attributes this liability to strangulation to "a certain decline of vigour and health, connected with the manifest deterioration of the depurative organs of the body, rendering the protruded part more liable to tumefaction, so that it becomes strangulated, owing to its ready turgescence." I am inclined to believe, however, that most of these cases should have been considered to result from obstruction, and not from actual strangulation;—the first being an influence exercised from within to without; the second from without to within. In the former case, gentle purgatives and enemata are frequently found sufficient to overcome the obstacle; while in the latter, the constriction itself must be removed, to permit of the tumor being returned into the abdomen.

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Treatment of strangulated hernia.—The first object in case of strangulated hernia is to effect its reduction, if possible, by means of the taxis; and where the symptoms are not very acute, this may be attempted without any preliminary preparation of the patient; but if the tumor be very painful, and general febrile symptoms be present, recourse must be had to bleeding, warm-bath, and the application of ice to the tumor, as I have already described. Should these means fail, however, in rendering the hernia reducible, the division of the stricture is the only alternative. At the same time, no question in surgery is more difficult than to decide upon the proper moment at which the operation should be performed. When, from the suddenness and severity of the symptoms, and the tension of the tumor, a very tight stricture is indicated, there can be no doubt that the operation should be performed as soon as possible,—for the rapid changes which take place in an intestine subjected to such constriction, very soon unfit it for the performance of its natural duties, even if it were restored to the abdomen: the severity of the symptoms may indeed be so great, that the operation ought to be performed without even waiting to apply the taxis. When symptoms of strangulation come on progressively, as in old hernia, some delay may be permitted, even beyond that time required for the application of the remedies already recommended, and even when those prove ineffectual I have frequently succeeded by giving large doses of opium,—in some cases as much as three or four grains. Constipation being one of the most urgent symptoms of hernia, and opium having a tendency to produce that condition of the bowels, you will naturally ask, gentlemen, for the rationale of this treatment. I believe that the opium allays irritation, and checks sickness, by diminishing the antiperistaltic motion of the intestines, and thus produces a condition of quietude through the whole intestinal canal, well adapted to improve the state of the protruded parts. I have never recommended opium by choice as a substitute for the operation; but in four or five cases in which the patient would not submit to that ordeal, I have employed it with perfect success. I first acquired a knowledge of this practice from the late Mr. Bush, of Frome, in Somersetshire, who informed me that although at one time of his life he had had to perform the operation for hernia several times in the course of every year, after he had adopted the use of opium he rarely had occasion to resort to any surgical measures.

In July 1838, I admitted a man, 64 years of age, into Guy's Hospital, who was the subject of inguinal hernia of five days' standing: he suffered from constant vomiting, insuperable constipation, and, indeed, from all the symptoms of strangulation of the bowel. I attempted to reduce the hernia, but could not succeed, and therefore proposed an immediate operation. To this the patient would not, however, accede. I then ordered him three grains of solid opium, in about four hours; the sickness was much relieved, and some flatus passed per anum, but the constipation still remained. At twelve o'clock the same night, my dresser, Mr. Coleman, repeated the dose of opium. The patient passed a very quiet night, and in the morning the vomiting had ceased, and a copious motion was passed, during which action the hernia returned into the abdomen. The patient perfectly recovered.

In June 1839, a married woman, æt. 54, was admitted into Esther ward, with a femoral hernia on the right side. The tumor was about the size of a small orange, tense, and very, tender to the touch. The patient was placed in a warm-bath, an enema administered, and the taxis applied, but unsuccessfully. I consequently proposed the operation: the patient would not, however, consent to it. I therefore ordered, for the time, ice to be applied to the tumor. The next day, all the symptoms remaining unaltered, I again attempted the reduction, still, however, without effecting my object; and I therefore ordered her to take four grains of solid opium. The symptoms were soon relieved; a castor oil enema was administered, and on the second evening after her admission into the hospital the bowels were slightly evacuated, and my dresser, Mr. Day, succeeded in reducing the hernia. This patient also recovered.

In another case I was sent for by Mr. Odling, to see a lady at Islington, who was suffering from all the urgent symptoms of strangulated hernia. The warm-bath had been employed, ice applied to the tumor, and several attempts made to reduce it by the taxis. This treatment was not, however, successful, and as the patient would not submit to an operation, four grains of opium were given: the symptoms were soon all relieved, and early the next morning the bowels were evacuated, after which the patient herself reduced the hernia by the application of very little force.

An old gentleman, who lived in Great Windmill Street, and who had long been the subject of irreducible hernia, was suddenly seized with symptoms of obstruction of the bowels, which did not yield to the usual remedies; and as sickness, as well as the other signs of insuperable constipation, came on, Sir Astley Cooper was sent for. He, however, happened to be unwell, and I went in his stead to visit the patient. I ordered enemata, ice to the tumor, and calomel and opium to be taken to allay the vomiting.

No relief was, however, obtained, and I consequently proposed the operation. This was at once objected to, and I was, therefore, constrained to employ some further medical treatment. Four grains of opium were administered, and five hours afterwards I again saw the patient: the sickness had ceased, but no evacuation had yet taken place. I then recommended a warm gruel injection, with an ounce of castor oil, and in the evening, the alvine excretions passed freely, and the patient shortly recovered.

Mr. Shelly, of Epsom, had a patient, a lady, 40 years of age, under his care, who, during three days, had suffered from all the urgent symptoms of strangulated hernia, and when first seen by Mr. Shelly, she had stercoraceous vomiting. He attempted to reduce the hernia, but not suceeding, recommended the operation. The patient refused to submit to this, and Mr. Shelly, jun., who had been one of my dressers, and who had seen the effect of opium in one or two cases in Guy's Hospital, immediately gave the patient two grains of solid opium, and further ordered a grain to be taken every two hours. She took four doses before the sickness and pain ceased, but the next day the bowels were relieved, the hernia was easily reduced, and she perfectly recovered.

Should every means fail, however, in effecting the reduction of a strangulated hernia, the surgical operation must necessarily be resorted to; and as every species of hernia requires some peculiarity in the method of proceeding with the operation, it is requisite to describe the steps in each particular kind.

Inguinal hernia.—This term is employed to designate the protrusion of any abdominal viscus through either the internal or external abdominal ring. When the hernia passes through the internal ring, it is termed an *oblique inguinal hernia;* when through the external ring only, a *direct inguinal hernia.* As the oblique is by far the most frequent I shall commence with its description.

An oblique inguinal hernia protrudes through the internal abdominal ring with the spermatic cord in the male, and the round ligament in the female, having the epigastric artery placed on the inner side of its neck: it has been designated by some surgeons an "external inguinal hernia," in reference to its position with regard to that artery. An oblique inguinal hernia is subject to certain varieties, each bearing its appropriate name: if, for instance, the hernia protrudes only into the inguinal canal, although it is in fact still an oblique inguinal hernia, it is called a *bubonocele;* if it proceed downwards, however, so as to pass through the external ring, it takes the name of *oscheocele,* or *scrotal hernia:* both these herniæ are usually covered by a distinct peritoneal sac, and pass through the rings in front of the spermatic cord, and exterior to the tunica vaginalis. Sometimes, however, when that tunic is not closed from the great peritoneal cavity, an oblique inguinal hernia passes down into it, without any additional covering of peritoneum, constituting what is termed *congenital hernia.* Each of these varieties when strangulated has the point of constriction on the outer side of the epigastric artery, and requires for the relief of the patient either the successful application of the taxis, or the division of the stricture by operation.

Strangulated bubonocele.—The diagnostic marks of this species of hernia are the situation of the tumor on the outer side of the pubes, and above Poupart's ligament: it is true that the swelling may be so large as to cover the spinous process of the pubes, and overlap Poupart's ligament, so as to descend upon the thigh, assuming the appearance of femoral hernia; but a bubonocele can easily be distinguished from the latter by the readiness with which it can be pushed upwards, so that it may be placed in its characteristic situation directly on the outer side of the pubes, and above Poupart's ligament. But still, great difficulty does sometimes occur in distinguishing between them. On Monday, January 20, 1840, I admitted a patient into Esther ward, who was the subject of a large hernial tumor in a state of strangulation, but it was of such an anamolous form that there was a difference of opinion as to whether it was inguinal or femoral, in consequence of its encroachment on the labium pudendi. Having employed the usual means preparatory to the application of the taxis, such as ice and an injection, I made attempts to return the hernia, and succeeded in restoring to the cavity of the abdomen all but a very small portion: it was thus rendered quite clear that it was a femoral hernia. It seemed that the protrusion had passed out of the saphenous opening in the fascia lata, and then extended itself between the skin and fascia lata to the pudendum, giving it the appearance of an inguinal hernia.

A servant of Dr. Babington was the subject of a strangulated congenital hernia, which passed partly through the external abdominal ring into the scrotum, but by far the larger portion of the tumor remained in the inguinal canal; and, from its size, so overlapped Poupart's ligament, and encroached on the thigh, as to give it very much the appearance of a femoral hernia, in addition to the scrotal one. Mr. Morgan, however, by a long-continued application of taxis, succeeded in reducing the hernia, and clearly proved that the apparent femoral portion of the swelling had in fact been placed in the inguinal canal, in which an undescended testicle was also felt.

When the particular species of hernia has been ascertained, the first step is to proceed to apply the taxis, an operation which requires considerable knowledge of the anatomy of the inguinal canal to enable the surgeon to obtain from it its full advantages. The inguinal canal is placed within the muscular parietes of the abdomen, passing obliquely from the internal ring downwards and inwards to the external; the pressure to reduce the hernia must therefore be exerted upwards and outwards, which inverse direction is, however, only to be followed in cases of oblique inguinal hernia. If it be found impracticable to reduce the hernia by the taxis, the stricture must be removed by surgical operation.

Operation for strangulated bubonocele.—This operation consists in enlarging the opening of the internal abdominal ring through which the hernia has escaped. To effect this object, the inguinal canal must be laid open for the purpose of exposing the *intrinsic* coverings of the hernia: an incision is made in the course of the tumor, commencing from within an inch of the internal, and extending to the external ring, cutting through the skin and superficial fascia, so as to expose the tendon of the external abdominal muscle: this tendon is then to be divided to a similar extent, and in the same direction as in the first incision. The hernial tumor enveloped by the internal abdominal fascia and peritoneum will now be exposed, partly overlapped, perhaps, by the free edges of the internal oblique and transversalis muscle; these may, however, be turned upwards off the tumor by means of the finger, and without cutting, so as to enable you to proceed to open the internal abdominal fascia (often termed the fascia spermatica interna). A director is now to be passed into the opening which has thus been made, and being gently pushed upwards, enters the cavity of the abdomen; the force required for this being in proportion to the tightness of the stricture. A hernial knife is inserted into the groove of the director, and passed along until it enters the abdomen, having, consequently, been pushed beyond the point of the constriction: the cutting edge of the knife is then turned forwards so as to divide the stricture; the division being made directly upwards: and, indeed, any inward direction is to be especially avoided, owing to the proximity of the epigastric artery. This division of the stricture external to the peritoneal sac usually proves sufficient, and the hernia may be returned by gentle manipulation: if this be effected the operation is completed, but if there be any adhesions between the contents of the hernia and its peritoneal sac, or any other cause which prevents the return of the hernia, the peritoneal sac itself must be laid open for the purpose of removing the obstruction.

The operation of dividing the stricture external to the sac may, I think, be looked upon as involving little more danger than the ordinary application of the taxis, for there can be no doubt that the great danger in the usual operation for hernia consists in opening the peritoneal cavity, and I have frequently had patients recover after the external division of the stricture with as much freedom from dangerous symptoms as when the hernia is returned by the application of the taxis alone. On January 5th, 1844, I operated on a boy for strangulated hernia, the strangulation having existed for two days. I divided the stricture external to the sac, and was able to return the intestine by a very slight exertion of force; not a single bad symptom supervened, and the patient did not appear to suffer more than in reduction by the usual method, without operation. I had also a patient in Cornelius ward, on whom I operated for a strangulated inguinal hernia, on which Mr. Key had operated three years before; in this case I divided the stricture without opening the sac, and to my great satisfaction the contents of the sac were easily reduced: the patient did not present any symptom of having been subjected to an operation, and even the collapse almost invariably attendant on the operation for hernia was in this case wholly absent; and I might enumerate several cases equally successful.

To Mr. Key is attributable the introduction of this plan of treatment in cases of recent hernia, as formerly surgeons recommended the division of the stricture external to the sac only in cases of very large hernia, and such as were of long continuance.

Congenital bubonocele.—If the bubonocele be congenital, the operation will be the same as that just described; the stricture exists at the same point, and is produced by the same cause; the only difference is, that the congenital bubonocele passes into the tunica vaginalis, and is without any further peritoneal covering. If, however, circumstances render it necessary in the operation for a strangulated congenital bubonocele to lay open the tunica vaginalis, the testicle will be seen lying within that covering, and usually below the protruded intestine, so that, even before the opening is made, the diagnosis of the congenital character of the hernia may be formed to a certain extent, the testicle constituting a second tumor immediately below the true hernial protrusion.

There are certain difficulties which may arise in the operation for a strangulated bubonocele, as well as in its diagnosis: in making the first incision, for instance, branches of the external epigastric or circumflex iliac arteries may give rise to a hæmorrhage that will render it necessary to apply a ligature to those vessels, for even should the bleeding not be sufficient to produce danger from loss of blood, it would obstruct the after steps of the operation, and should therefore be immediately arrested. On dividing the tendon of the external abdominal oblique muscle, instead of exposing the hernial sac, you may discover a varicose condition of the spermatic veins—a hydrocele of the cord—an undescended testicle—a cyst, perhaps, connected with the ovarium, or a steatomatous tumor may conceal the hernia from view. It is, therefore, necessary in all cases to be prepared for such contingencies; and even when they are met with, if the symptoms of hernia are present, whatever the concomitants may be, the malady must not be referred to them, but careful examination should be further made to ascertain, beyond all question, the presence or absence of a hernial protrusion. In a former lecture I mentioned the case of a surgeon, who, in seeking for hernia, found hydrocele of the cord; without further investigation, he set this down as the origin of the symptoms, and allowed the hernia, which, in fact, existed, to remain constricted until the life of the patient became sacrificed. I therefore again urge upon you, gentlemen, the necessity for pushing your inquiries in such cases to the most extreme limit. I have myself met with considerable difficulty whilst operating in a case of congenital bubonocele, from mistaking a non-descended testicle for a hernial sac: very lately, my colleague, Mr. Cock, in operating in a case of bubonocele, found a second tumor beside the protruded intestine, and upon dividing the stricture, a quantity of viscid fluid escaped. Mr. Cock was consequently, led to consider it as an encysted tumor, proceeding probably from the ovarium. The unexpected occurrence did not, however, prevent the completion of the operation; and the hernia was reduced under circumstances that would have alarmed a less scientific surgeon, and might, perhaps, materially have interfered with its result: the patient recovered. Psoas abscess sometimes makes its way into the inguinal canal, and when it it is concomitant with bubonocele, pus might escape during the operation. A case occurred some time ago at Epsom, in which, with all the symptoms of hernia, a tumor was discovered in the abdomen; the tumor was, however, distinctly fluctuating, it was therefore punctured, and pus let out: the evacuation of the matter satisfied the surgeon, he set down all the symptoms to the account of the abscess, and did not seek for any further cause. As the opening of the abscess did not, however, relieve the patient (all the symptoms of hernia remaining), in a short time he died, and upon post-mortem examination a hernial protrusion was found, in addition to the abscess from which the matter had been discharged. Some difficulty may also arise in the division of the stricture, whether it be attempted externally to, or within, the sac. In the first case there may be a difficulty in recognising with certainty the fascia spermatica interna. It may be supposed that this tissue is exposed before it is in fact reached, and until it is opened the stricture cannot be divided; the best criterion for knowing when the fascia spermatica interna is laid bare, is the appearance of the fibres of the cremaster muscle, the complete division of which must expose that intrinsic covering of the hernia.

A further hindrance to the division of the stricture may also occur from the tightness of the constriction round the neck of the sac. This difficulty renders it necessary to employ the greatest caution both in passing the director through the stricture, and also in passing the hernial knife. Many cases are on record in which the intestine has been wounded in this step of the operation; and I believe there are few operating surgeons who have not met with this accident. About two years ago I was sent for to operate on a lady who was labouring under strangulated hernia. She was one in whom I felt a more than usual interest, from the earliest associations of my youth. I mention this only to shew that it was a case which commanded my utmost care. After I had divided the stricture (which was very tight) with my own "guarded" hernial knife, a quantity of fluid escaped, and a violent burning pain, attended with a sensation of extreme tension throughout the abdomen, was immediately experienced by the patient. About four hours after the operation she expired; and, in a post-mortem examination, an opening was found in the intestine, and, from its appearance, I have no doubt of its having been inflicted by the knife during the operation: indeed, it may be sometimes impossible to avoid this accident.

The effusion from the bowel which proved fatal in this case may, however, take place without the intestine having been wounded by the knife, as lesion of the protruded part may sometimes be produced by the constriction to which it is subjected: but I think the appearance of the opening in the bowel would always indicate the nature of the cause which produced it. The liability to wound the intestine during the operation exists equally in every kind of strangulated hernia. In the operation, fresh difficulties may present themselves even after the stricture has been divided—viz. in returning the intestine into the abdomen. The difficulties here may arise from the quantity of intestine protruded, from its distension with flatus, its abnormal thickening, or its adhesion to the hernial sac.

In September 1837, I operated at Guy's Hospital on a young man who was admitted with strangulated inguinal hernia. No difficulty occurred during the operation until after I had divided the stricture, when I found it totally impossible to return the bowel into the abdomen. I punctured the intestine with a grooved needle, to let off the gas with which it was distended, and the patient was put to bed, the head and lower extremities being raised, and the tumor covered by a light cloth kept constantly wet with warm water. After he had been two hours in bed, he passed a large quantity of flatus per anum, and my dresser then succeeded in replacing the intestine. The man died, however, in a few days, of peritonitis, the contents of the bowels not having been evacuated. A post-mortem examination was made, but no cause could be found for the difficulty in returning the hernia: the stricture had been freely divided, and there were no adhesions of the intestine, but it was much thickened, and had become inelastic and of a leathery consistence. Mr. Porter, of Dublin, lately described a case to me, in which, after having opened the sac, and divided the stricture, he failed in every attempt to return the protruded intestine into the abdomen, and his patient died in three days with symptoms of strangulated hernia. On dissection, it was found that the colon and part of the ileum had protruded under Poupart's ligament, and that a portion of the ascending colon had fallen over the entrance of the ileum into the caput coli, so as to completely close the valve, and thus produce the symptoms of strangulated hernia, and prevent the return of the protruded part, as the air and other contents of the sac could not be pressed back through the ilio-colic valve. In August 1841, one of my colleagues admitted a patient into the hospital who was suffering from a large strangulated scrotal hernia. The hot bath, ice, and taxis, were all tried without success, and, the operation being therefore determined on, the sac was laid open, and the stricture divided, but it was found that even then the intestine could not be returned into the abdomen, in consequence of its being enormously distended with fluid: this was evacuated by a small puncture. The patient died, however, in a very short time. If adhesions be the cause of the difficulty in returning the intestine, they must be divided, whether they are to the omentum or to the sac itself, and I have not found this operation so difficult as we might have been led to expect, as the adhesions are usually of recent formation. They may, however, be so firm and extensive that an attempt to divide them would be unjustifiable. The intestine must, under these circumstances, be left in the sac, and of course remains, in that case, under the form of an irreducible hernia. The prognosis is then very unfavourable.

In the cases I have just described, where, owing to its great distension, the bowel could not be returned, I believe that it is better practice not to puncture it either for the evacuation of air or fluid; but after the stricture is freely divided, the patient should be placed in bed, and the protruded intestine covered with linen dipped in warm fomentations, leaving it to the chance of its spontaneous action, in which case it would be easy to return the protrusion into the abdomen.

The cases which I have described to you, gentlemen, in this kind of hernia, I have chosen out of the various operations I have performed, because they represent to you the difficulties which you may meet with in your own practice; for if I only recited my successful cases, I should merely describe the steps of the operation, and perhaps impress you with the idea that success might be always insured by common caution and skill; while, on the contrary, you will now perceive the necessity for being ready to meet obstacles for which you could only be prepared by being previously aware of the probability of their presenting themselves.

Oscheocele, or scrotal hernia.—When a hernia has passed through the external ring and issued from the inguinal canal into the scrotum, it is no longer termed a bubonocele, but takes the name of oscheocele: it is, in point of fact, placed under different anatomical circumstances, as it does not now receive any covering from the tendon of the external abdominal oblique muscle, but has acquired new ones from the cremaster muscle and fascia spermatica externa. The latter can scarcely, however, be regarded as a fresh covering, as it is a continuation of the superficial fascia of the abdomen, proceeding downwards into the scrotum; and, by its close connection with the circumference of the external ring, closes it exactly as the internal ring is closed by the fascia spermatica interna.

The coverings of a scrotal hernia are—skin, superficial fascia, and cremaster muscle, which constitute its extrinsic, while the fascia spermatica interna and peritoneal sac form its intrinsic coverings.

An oscheocele is liable to become strangulated, and then precisely similar treatment to that in bubonocele is necessary. The taxis is to be applied in the same manner and in the same direction, the object being to push the viscus back along the course of the inguinal canal, and through the internal abdominal ring, into the abdomen. If the reduction cannot, however, be effected, an operation must be had recourse to for the relief of the strangulation.

The operation is commenced by making an incision through the skin along the neck of the tumor, beginning immediately below the external abdominal ring, and being continued downwards for about an inch and a half, first cutting through the skin; next, the superficial fascia must be divided to an equal extent: this must be done with great care, and the dissection continued in depth until the fibres of the cremaster muscle are brought into view. As the fascia is divisible into layers, there may be some difficulty in recognising the cremaster muscle; but this is a very important point, as it exactly indicates to the surgeon the progress he has made in the operation. When the cremaster muscle is, however, distinctly recognised, it must be cut through, by which the fascia spermatica interna (internal abdominal fascia) will be reached. This tissue is then to be very cautiously opened, and a director passed upwards as far as the stricture. The director being between the fascia and the peritoneal sac, is to be insinuated beneath the stricture; and, when brought into the proper position, the groove being directed forwards, the hernial knife is to be passed along the groove, and the stricture divided in the same manner as I described when upon the subject of bubonocele. The seat of the stricture in strangulated scrotal hernia is generally at the internal ring; but the latter does not, as in bubonocele, remain in its normal position midway between the anterior and superior spinous process of the ileum and pubes, but is forced downwards by the propulsion of the tumor until it is brought into close proximity to the external ring; so that, in dividing the stricture, there is no necessity for laying open the inguinal canal, as would be requisite if the rings were not brought so close to each other. If, after the stricture has been divided externally to the peritoneum, the sac cannot be emptied, it must be opened, in order to remove the obstruction which prevents the reduction. Oscheocele is sometimes congenital: in that case the testicle will be found descended into the scrotum, instead of remaining in the inguinal canal, as is frequently seen in bubonocele.

No difficulties offer themselves in this kind of oblique inguinal hernia (a scrotal hernia) beyond those which have already been described as appertaining to the "bubonocele," unless we admit the great liability of an increase of size in the hernial tumor when it has reached the scrotum, as offering a peculiarity. If a scrotal hernia has acquired a great size, the hernial sac should not be opened, but the stricture freely divided, and the sac emptied of its contents, if practicable; but if this cannot be effected, an opening just large enough to admit the director into the sac should be made, and, the director being passed upwards into the abdomen, the neck of the sac should be divided, and the finger gently introduced to seek for any adhesions, which may prevent the bowel from being returned; but, should its reduction prove still impracticable, it is better for it to be left in the scrotum than for the whole sac to be laid open. Hydrocele or hæmatocele of the tunica vaginalis may be concomitant with scrotal hernia, and lead to some diagnostic difficulties, or a complication of a direct with an oblique inguinal hernia might possibly occur; so that it is always judicious, after the intestine seems to be reduced by being pushed through the external ring, to examine whether any tumor still remains in the inguinal canal.

A very curious case of hernial complication occurred to me in consultation with Mr. Francis Toulmin, of Hackney. In August 1847, he consulted me about a patient who was suffering under symptoms of strangulated hernia. Upon examining the patient, a slight degree of fulness was felt in the right inguinal canal, but not conveying, from its appearance or feel, the evidence of a hernial tumor. We determined, therefore, on giving some calomel and opium to allay the sickness, and to wait the effect of the medicine. The symptoms, however, continuing the same, the next day we laid open the inguinal canal, to examine the cause of the slight protrusion in that region. As we expected, from the general character of the swelling, no hernial sac was found, nor did we discover any visceral protrusion, but what we regarded as a thickened and varicose spermatic chord. We therefore closed the wound, ordered some stimulus, as our patient was now become very low, and considered that he was dying of some internal cause of obstruction. The next day, indeed, he died.

Mr. Francis Toulmin, twenty-four hours afterwards, made a post-mortem examination, and the following is his account of the investigation:—

"I send you herewith the right testis, with the appendix cæci and spermatic chord attached, and the result of my further examination of the body twenty-four hours after death. The skin was yellow; the abdomen tumid. Upon opening this cavity, the intestines *in situ* were deep in colour, and slightly glued together by recently-effused lymph. I first examined the left internal ring, and found it would easily admit the point of the finger from the abdomen into the inguinal canal, which contained nothing abnormal. Upon laying open the right inguinal canal completely into the abdomen, for it had already been laid open by operation before death, the appendix cæci vermiformis was found passing through the internal ring and inguinal canal, and, terminating by a bulbous extremity, was adhering firmly to the right testicle, which was situated just below the external ring: the spermatic chord took its course behind the appendix, and they were firmly adherent to each other. About eighteen inches of the intestinum ileum, forming numerous intricate convolutions, were firmly bound down to the rectum by a considerable quantity of plastic lymph, forming a mass which completely filled up the cavity of the pelvis. On separating, or rather unravelling, this mass, some pus flowed out. About six inches of the intestine was completely empty, contracted, and almost impervious."

From the history of the symptoms in this case, as well as from the post-mortem examination, it is quite clear that the protrusion of the vermiform process of the cæcum was not the cause of obstruction to the bowels, but the adhesion of the small intestines to each other. One of the strongest proofs of this fact is, in my mind, the urgency of the sickness, which constituted a prominent feature in the disease; while, had protrusion of the cæcum been the exciting cause, vomiting would have been only a secondary symptom.

ON A PECULIAR PROPERTY OF COKE. BY MR. J. NASMYTH.

The following interesting fact was discovered some years ago, and it appears to furnish additional evidence as to the identity of the diamond with carbon, namely, that *coke* is possessed of one of the most remarkable properties of the diamond, in so far as it has the property of *cutting glass*. I use the term "cutting" with all due consideration—in contradistinction to the property of scratching, which is possessed by all bodies that are harder than glass. The *cut* produced by coke is a perfectly clear diamond-like cut, so clean and perfect as to exhibit the most beautiful prismatic colours, owing to the perfection of the incision. Coke has hitherto been considered as a soft substance, doubtless from the ease with which a mass of it can be crushed and pulverised; but it will be found that the minute plate-formed crystals, of which a mass of coke is composed, are *intensely hard*, and as before said, are possessed of the remarkable property of *cutting* glass. This discovery of the extreme "diamond-like" hardness of the particles of coke will, no doubt, prove of value in many processes in the arts, as well as interesting in a purely scientific sense.—*British Association, Athenæum report.*

Original Communications.

A COLLECTION OF FACTS ILLUSTRATIVE OF THE

MORBID CONDITIONS OF THE PULMONARY ARTERY.

AS BEARING UPON THE TREATMENT OF CARDIAC AND PULMONARY DISEASES.

By Norman Chevers, M.D.
Assistant-Surgeon, Bengal Army.

[Continued from p. 361.]

Dilatation of the Pulmonary Artery.

The fact that as life advances the pulmonary artery, in common with all other parts of the vascular system, is liable to become gradually and permanently dilated;* and that the establishment of fixed causes of obstruction, either in the lungs, left heart, or systemic circulation, are at all periods liable to produce a similar result,—have already been commented upon in previous chapters of this memoir. It now merely remains to cite a few examples in which remarkable dilatation of this vessel was found to have occurred under somewhat unusual circumstances.†

We have seen that an unnaturally wide condition of this vessel is found in several classes of cases of cardiac malformation. The following instance presented at once the largest amount of simple dilatation of this vessel that has ever fallen within my notice, and one of the most singular congenital irregularities that has been known to occur in the heart of an adult[*]:—

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* General dilatation and loss of elasticity are the only visible physical changes to which the tissues of the pulmonary artery appear to be liable in extreme old age, independently of the operation of accidental morbid influences. In most of the hearts of very aged persons which I examined, the structures of this vessel retained, to the eye, a nearly healthy appearance; the valves especially presenting a striking contrast to those of the aorta. Morgagni describes the condition of the heart in a man of 98, in whom all the valves belonging to the orifices of the right ventricle were not only not rigid nor thickened, but even, like those which belong to the pulmonary artery, they seemed to be formed of a thinner membrane than usual. The mitral valves, however, were found thicker than they ought to be; and the aortic valves were all bony, inflexible, and protuberating internally, &c. The arch of the aorta and its vessels were free from bony scales, which were however seen in the remaining part of the aorta.—Letter XXI. A. 15. It appears, in fact, that degeneration of the tissues of this vessel is not by any means a necessary attendant of old age, but is most frequently the result of over-distension and other accidental morbid influences.

† Cases of too great capacity of the pulmonary artery are described by Cooper (in Farre), Richerand, Corvisart, Testa, J. F. Meckel, Hufeland, Lawrence, Young, &c.

A woman, 45 years of age, dropped suddenly in the street, near Guy's Hospital, and died, gasping and pallid, without any convulsions, immediately after she had been brought into the house. Some suspicion was entertained that she had swallowed about a drachm of nux vomica powder an hour before her death, but this was not proved to have been the case. I was present at the autopsy, July 12th, 1844. The body was lean, but scarcely had the appearance of being wasted. The extreme parts of the body were remarkably blue. Some of the muscles, especially the internal ones, were very pale. The chest was much deformed, the ribs being compressed laterally below the præcordial region, apparently by the tight lacing. The pericardium contained a considerable quantity of clear fluid. The heart was very large, owing entirely to the dilated condition of its right cavities, which were distended with dark semi-fluid coagula. The pulmonary artery was very conspicuous; there were some white patches, like cicatrices, upon its left side; posteriorly it was adherent to the aorta by strong bands.[†] The auricles communicated by an oblique opening capable of admitting the ends of three fingers; in the remains of the septum below this was an oblique passage, closed on the side of the left auricle; this was evidently the vestige of a foramen ovale: therefore there must have been originally two of these communications in this individual—one of which had closed, the other remaining permanently open. Four pulmonary veins were found opening into the right ventricle, as did the common termination of the coronary veins, which was furnished with a well-formed valve. The right auricle was very capacious. The tricuspid valve was not malformed. The right ventricle was capacious and thick. The *pulmonary valves* were bordered with a few vegetations; their tissue was unusually thick, but still retained its pliability. Immediately below its valves the orifice of the artery measured four inches and four lines in circumference; at the upper attachments of the valves it was about one line wider (the normal measurement of these parts being respectively 38¼ and 32¼ lines). Notwithstanding this dilatation of the vessel, there was no reason to doubt that its valves were perfectly efficient. The left auricle was less capacious than the right. The left ventricle appeared remarkably small when compared with the right; its parietes were by no means thin, but their muscular structure was soft. The aortic orifice was structurally healthy, but it was remarkably narrow, measuring somewhat less than two inches below the valves. The vessel was small throughout its entire course; but, immediately below the left subclavian artery, it was in a marked degree more contracted than elsewhere. Several enlarged bronchial glands were found near this spot; these may have encroached slighty on the aorta, or the dilated pulmonary artery may have somewhat compressed it, but there was no distinct structure here: and the undilated state of the left ventricle and ascending aorta proved that this narrowing of the vessel had not caused much impediment to the circulation. Neither the internal mammary, nor the intercostal arteries were perceptibly dilated. The lungs were in parts highly emphysematous, and were generally much congested. The liver was congested. The spleen small, and surrounded by adhesions. The kidneys were small, and tolerably healthy.

It was ascertained that this person was one of twins born at the eighth month. She had always been liable to shortness of breath, and to become blue upon unusual exertion. Her habits had been irregular and intemperate.[*]

It is evident that this female must have always been liable to great pulmonary congestion; and it is certainly most extraordinary, considering the nature of the congenital defect of her heart, and the artificial deformity of her chest, that she should have reached the middle period of life. It will be observed that in this case the orifice of the pulmonary artery had become widened to a degree considerably beyond that to which it is naturally dilatable—a circumstance to which I have alluded at the commencement of this paper, as producing a tendency to sudden death, upon the occurrence of any circumstances which occasion over-distension of the right cavities. It is evident that the degree of mental perturbation which could have urged this unfortunate individual to procure the means of committing suicide, was amply sufficient to produce fatal embarrassment of a heart so weakened and malformed.

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[*] Full details of this case have been published by Mr. Alfred Taylor, in the MEDICAL GAZETTE, vol. xxxvi. p. 19.

[†] It is known to all anatomists that in some subjects the pulmonary artery is united to the ascending aorta, and that in others a considerable interval is found between these vessels.

[*] A case somewhat similar to this occurred to Mr. Harrinson, who, in 1844, presented to the Reading Pathological Society the heart of a child two years and two months old, who had been the subject of cyanosis. The right side of the heart was enormously distended with clots of fibrine; the auricle and ventricle were greatly enlarged. The auriculo-ventricular orifice was so much enlarged or dilated as to annihilate the functions of the valves. The *pulmonary artery* was greatly dilated. The ductus arteriosus was impervious. On the left side the auricle was very small, and the foramen ovale open; its edges rounded, and no valvular apparatus; the auricular appendages absent. No appearance of the entrance of any pulmonary veins; left ventricle very small. Mr. Harrinson conjectured that the pulmonary veins must have terminated either in the vena azygos or in the superior cava.

The average circumference of the pulmonary artery, at its widest part, is about 38 lines. Dr. Hope has described a case in which this vessel measured five inches half way up, and four and a half near the valves. Here the sygmoids were stretched, and were considered to be inefficient.* In such instances as these, the duration of the patient's life must obviously depend chiefly upon the strength of the right and left ventricles, and the degree of safety-valve action of the tricuspid.

It is usual to find the pulmonary artery with its valves more or less (sometimes extremely) dilated, coarse in structure, and irregularly thickened and opaque, in cases of old bronchitis and extensive emphysema of the lungs, &c., as well as in instances where death results from mitral and aortic obstruction.†

In cases of old bronchitis, mitral and aortic obstruction, &c., it is usual to find the entire tract of the pulmonary artery more or less inordinately dilated. In the generality of examples of this change, the branches of the vessel are observed to have undergone the greatest amount of structural alteration, presenting an almost varicose appearance, their anterior being thickened and opaque, and discoloured by striæ and patches of atheromatous deposit. In more extreme examples, the main trunk and valvular apparatus of the artery are also found to have undergone, in addition to their dilatation, a marked degree of thickening, and to have become the seat of a certain amount of opaque interstitial deposit—appearances which deprive the vessel of its characteristic appearance, and give it an aspect very closely resembling that of the ascending aorta. The following case, with which I have been kindly favoured by my friend Dr. Peacock, affords a very excellent example of the class of lesions now under consideration.

Wm. Cassidy, æt. 72, cooper, admitted into the Royal Free Hospital, July 3d, and died July 5th, 1847. He was dying when I saw him. The face was pale, the cheeks livid, and the jugulars were distended and pulsating. The hands were cold and livid. He was greatly emaciated, and the abdomen and the cellular membrane, of the lower extremities more especially, were distended with fluid. The chest sounded dull on percussion of the level of the nipple on the left side; and on the right, from a somewhat lower point, a loud and rough systolic murmur was audible at the præcordia, and was followed by a flat second sound. This sound was most intense an inch and a half to two inches below the nipple, and external to a vertical line drawn from it. The pulse was unequal in strength, and occasionally intermitted. No history of his previous illness could be obtained.

The brain was below the average weight, or only 42 oz. 4 dwt. avoirdupois. There was some fluid beneath the arachnoid membrane and in the ventricles.

A considerable amount of fluid was contained in each pleural sac. The lungs were partly compressed by the fluid, and partly emphysematous: on section, they yielded much spumous fluid. The bronchi were of large capacity, and the cartilages unusually hard and thick. The dilatation extended throughout the bronchial ramifications, and the mucous membrane was generally reddened, and the tubes filled with a glairy mucous fluid.

There was a large, thick, and opaque patch of old lymph on the anterior surface of the right ventricle, which, when removed, left the pericardium beneath it smooth and glistening. The right auricle was studded with small nodular concretions of old lymph. There was but little fat in the heart. The heart weighed 14 oz. There was great dilatation and hypertrophy of the right ventricle, the cavity being 4 in. and 3 lines in length, and its walls three lines thick at the base; four and a half at the mid-point, and one and a half at the apex. The tricuspid aperture was very large, allowing of the passage of a ball measuring five inches in circumference. The pulmonary orifice was also extremely large, allowing of the passage of a ball measuring three inches and nine lines in circumference. The tricuspid and pulmonic valves were somewhat thickened, but not otherwise diseased. The trunk of the pulmonary artery was very much dilated, and the sinuses at its origin especially so. Its branches were throughout very large, and, though the lining membrane of the trunk was free from appearances of disease, that of the primary and secondary divisions, and the smaller branches, was the seat of extensive atheromatous deposit. In the smaller vessels the coats were so much thickened that on section they remained wide open, and in some there were small, hard, and partly adherent pinkish-coloured coagula. The left ventricle was also hypertrophied and dilated, measuring three inches in length, and from six lines to two and a half lines in width. The mitral valve displayed some mammillary thickening, and the free fold was somewhat atheromatous. The aortic valves were thickened at their free edges, but not incompetent. The aorta around the angles of the valves was extensively ossified, and the orifice of the right coronary artery was nearly closed by a deposit of this kind. The other coronary artery, and the right throughout the remainder of its course, was not materially diseased.

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* I have never myself seen any case in which the pulmonary valves had become inefficient in consequence of retroversion, or from any other effect of dilatation independently of mechanical violence or congenital defect.

† Instances of too great capacity of the pulmonary artery are also described by Cooper (in Farre), Richerand, Corvisart, Testa, J. F. Meckel, Hufeland, Lawrence, Young, and others. Otto has also given the following references to recorded cases of aneurism of this artery.—And. Cæsalpin, Catoptrices, Lib. vi. cap. 20; Blancard, Anat. Pract Rat. Cent. ii. Obs 74; Fabrig. von Hilden, Observat. et Cur. Chir. Cent. ii. Obs. 89; Eggerdes, in Misc. Acad. Nat. Cur. Dec. II, An. VI. 1687, p. 415; Morgagni, Epist. XXIV. Art. 36; Matani de Aneurismal. Præcordior. Morbis, p. 125; Baader, Observat. Med. Incis. Cadav. Illust. Frib. 1765; Bach v. Richter's Chir. Bibliotheck, vol. viii. p. 498; Essenchmidt, in Schmucker's Vermischt Schriften, vol. ii. p. 241; J. C. Stark, in Abhandlungen der Erlangen Physic zu Alexander, Trans. vi. 765.

The lining membrane of the aorta was extensively studded with atheromatous patches. The sinuses of Valsalva were much dilated, and the aorta generally was large, and its ascending portion elongated.

The liver was large, lobulated and coarsely granular. The kidneys large, mottled, irregular in shape, and studded with smaller or larger sized cysts.

The peritoneal cavity contained much fluid.

The occurrence of atheromatous deposit in the pulmonary artery, and especially in the branches of that vessel, is now generally recognised as a by no means unusual pathological appearance: it is usually associated with a greater or less amount of hypertrophy or dilatation of the right ventricle, and with a proportionate degree of congestion of the general venous system. These latter abnormal conditions may exist either as the direct results,[*] or as the mere coincidents of the arterial lesions.

Aneurism of the pulmonary artery.

The occurrence of aneurism in this vessel has rarely been observed: the great dilatability of the ascending portion of the artery appears to be the principal cause of its immunity from this lesion, while its internal branches are still further protected by the elastic support afforded by the pulmonary tissue. Indeed, when we take the true nature of aneurism into consideration, it becomes probable that the morbid appearances which will be described in the following cases were not due to a process strictly analogous to that by which aneurisms of the systemic arteries are produced: in fact, the condition appears to be more nearly allied to a form of varix which occasionally affects the larger veins.[*]

The following case occurred in the practice of Dr. Fletcher, of Birmingham[†]:—

A thin, pale girl, æt. 19, a screw-wormer, was admitted to the Birmingham General Dispensary. She complained of violent pain in the head, and of some pain in the left side of the chest, great dyspnœa, and troublesome cough. Immediately under "(on ?)" the left of the sternum, between the second and third ribs, there was dulness on percussion over a space measuring nearly four square inches. Over this spot a very liquid pulsation was felt, accompanied by a purring thrill, so rough and so close to the surface, that it seemed almost to grate on the fingers. At the same place a hollow rasp sound was heard with the systole of the heart, and also for a moment at the commencement of the diastole, as if the blood was receding. The patient lived a year after these symptoms were observed, and, after repeated attacks of bronchitis and pneumonia, died rather suddenly.

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[*] In one of his valuable papers on cardiac disease, Dr. G. H. Barlow alludes to a case occurring in his own experience, in which thickening and rigidity of the coats of the *pulmonary arteries*, extending into their smaller ramifications, had produced engorgement of the right ventricle, and its consequences. ["Select Clinical Reports," Guy's Hospital Reports, vol. v. N.S. p. 177.]

[*] The diseased state of the vena cava observed in the following case seems to have approached as nearly to the condition of aneurism as did the lesions of the pulmonary artery in any of the examples which have next to be cited.

Dr. Edward R Squibb has recorded the history of a mulatto man, aged 37 years, who, for ten months previously to his death, suffered from a violent but remittent pain in the abdomen, with irritability of stomach, a sensation of obstruction after taking food, and occasional vomiting. Shorly before his death, the pain abated, and the patient felt able to sit up in bed. The exertion of rising up caused a feeling of great weakness and tendency to faint. He was immediately laid down, but expired in a few hours.

On examination, the abdominal viscera were found imbedded in and quite hidden by masses of coagulated blood, the viscera themselves appearing to be quite in a healthy condition. A rupture of the ascending cava was discovered just below the lower concave surface of the liver. The veins at this point had been very much dilated, and its coats much diseased and thinned. A semi-organized mass or clot, which was contained in the dilatation, was connected by its surface to the softened coats of the expanded vessel, and the rupture had occurred at the junction of the edge of this mass with the side of the vessel, and not at the projecting point of the dilatation. The tumor was on the anterior portion of the circumference of the vessel, and was overlapped by the lower edge of the liver, and by a portion of the stomach, which latter circumstance may account for the sensation of obstruction so constantly complained of during life.—*Philadelphia Med. Examiner*, Oct., 1846, p. 583.

[†] This case has been detailed at length by Dr. Fletcher, in the 25th volume of the Medico-Chirurgical Transactions; but for the sake of brevity, I have here given the account published by Dr. Blakiston in his recent work on "Certain Diseases of the Chest," p. 98.

Inspection.—The *pulmonary artery* was found dilated into a pouch, the interior circumference of which measured nearly six inches, and which pointed principally in the anterior direction, where the internal and middle coats were wanting, and where a fibrinous clot was found. One of the pulmonary valves was contracted. The aorta was first a little dilated, and then contracted, particularly where it was joined by the ductus arteriosus. There was also a permanent communication between the two ventricles.

Ambrose Parè has recorded the somewhat doubtful case of a certain tailor, who, "by an aneurisma of the *arterious vein* [pulmonary artery], suddenly, whilst he was playing at tennis, fell down dead,—the vessel being broken. His body being opened, Parè found a great quantity of blood poured forth into the capacity of the chest; but the body of the artery was dilated to the largeness of a man's fist, and the inner coat thereof was bony. For which cause Parè, within a while after, shewed it to the great admiration of the beholders, in the Physicians' School, whilst he publiquely dissected a body there."[*]

It is much to be regretted that the details of the following case have not been more satisfactorily given. I quote the account from a periodical[†], having failed to procure a sight of the work in which it was originally published.

In September 1814 Dr. Harlan assisted Dr. Parrish in the examination of the body of Captain M——, a middle-aged person of robust constitution. His disease had never confined him to his house; and the day preceding his death he called on Dr. Parrish, and complained of dyspnœa and pain in the back of his neck. His symptoms were referred to stricture of the œsophagus; and Professor Winstar, who was consulted, advised the use of the probang: the patient deferred this operation, and, during the same night, was attacked with increased difficulty of breathing and exacerbation of all his symptoms. A bleeder being sent for, he lost some blood, with temporary relief; but in a short time afterwards he expired in convulsions.

The autopsy very unexpectedly developed an aneurism of the *pulmonary artery*, the sac of which extended so far back as to press upon the œsophagus, and produce symptoms of stricture in that part. There was considerable effusion in the lungs, and a lump of coagulated blood in the trachea, near the glottis, which most probably occasioned his sudden death. The effusion was occasioned by the rupture of the aneurismal sac, which was adherent to the air-cells of the lungs. Dr. Harlan justly observes that it was fortunate the probang was not employed.[*]

Mr. Fearn, of Derby, has recorded[†] the case of a patient who died from hæmoptysis, in whom an aneurismal sac of the size of a nutmeg was found jutting into a tubular extremity on the upper lobe of the left lung. The parietes of the sac were thin, and did not contain any fibrinous layers; a vessel, the size of a small crow-quill, leading from a considerable trunk of the *pulmonary artery*, was distinctly traceable into the sac.

Dr. Peacock has also met with an instance in which a pulmonary branch of the size of a crow-quill was found so dilated at one spot as to be capable of holding a bean. This dilatation was situated within a cavity hollowed out in the parenchyma of the lung containing blood; the lining membrane of the vessel was continuous. Several other cavities, containing pus, existed at the upper part of the lung. Dr. Peacock attributes this lesion to the loss of support which the vessel must have sustained, owing to the removal of the elastic substance of the lung in its vicinity. He also very justly denies the identity of this lesion with aneurism, as it occurs in the systemic arteries.

The preparation numbered 1450** in the collection at Guy's, displays an artery of considerable size, traversing the wall of a phthisical cavity, and presenting two small aneurismal dilatations, one of which has burst into the cavity. The lining of the vomica appears to be unusually thin. Another branch, of equal diameter, occupies another portion of the wall of the excavation; its canal appears to be obliterated.

The lesion which destroyed life in the following case appears to have been closely similar to that form of rupture of the proper tonics of the aorta which usually gives rise to dissecting aneurism:—A Pontonier, twenty-one and a half years of age, who had enjoyed good health excepting slight dyspnœa during three months he had been in the army, after having engaged in carrying wood during the day, was roused in the night by a violent pain at the right of the sternum, with great dyspnœa, which subsided in a few minutes.

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[*] Book 1st, De Tumoribus, Cap. XXVIII. London edition, fol. 1649, p. 204.

[†] Medico-Chirurgical Review, July 1839, from "Medical and Physical Researches, by R. Harlan, M.D. F.R.S. London and Philadelphia, 1835."

[*] The use of this instrument cannot be too strongly deprecated in doubtful cases of dysphagia. I have met with two instances in which the œsophagus was greatly compressed by aneurisms of the descending aorta; and in each of which—the structures of the œsophagus having become completely removed—there remained a large rounded aperture, which was merely closed by thick layers of coagulum. Had a probang been introduced in either of these cases it must have inevitably caused instantaneous death, by entering the aneurismal sac.

[†] Lancet, Feb. 6, 1848.

He afterwards became much relieved. During the afternoon of the following day he asked for drink, became pale and collapsed, and died. On examination, a number of calcareous concretions were found on the outer side of the *pulmonary artery*, close to its origin, and extending towards the right ventricle. The inner coat was separated from the elastic for the space of three inches from the point at which it joins the right ventricle, and torn into shreds, which projected into and narrowed the cavity. The whole lining membrane was coated with a thin layer of fibrine. At its origin from the ventricle, exactly in the situation where the concretions terminated, was a hole of the size of a fourpenny-piece, through which the blood had escaped into the pericardium; the neighbourhood of this opening was of a blood-red colour. The lungs were healthy and bloodless.*

OBSERVATIONS ON THE

FUNCTIONAL AND ANATOMICAL ANALOGIES EXISTING

BETWEEN

THE EYE AND THE EAR.

By J. D. Macdonald, Esq.
King's College.

An anatomical parallel has often been attempted to be traced between the organs of vision and hearing, but their special functions have not been duly born in mind in any case, so as to furnish, not only an anatomical, but also a physiological analogy between them. There seems to be as close a correspondence in the structure of the eye and the ear, as there exists in the properties of light and sound; while any peculiarity occurring in either organ may be found to be in accordance with some special quality, characterising its appropriate *stimulus*, although, in the present state of our knowledge, nothing decisive can be said as respects the function of many wonderful and delicately constructed parts in both organs, which manifestly fulfil some important offices, as their very existence must demonstrate: either indicating the presence of many laws in optics and accoustics, which experimental philosophy has not yet fully expounded, or exhibiting a marvellous application of known laws to the fulfilment of certain requirements in the constitution of special functions. So that it would be fruitless to attempt a purely anatomical analogy apart from any functional considerations; indeed, it would seem more reasonable to trace a physiological or functional parallel between the eye and the ear, merely referring to those anatomical points which bear reference to particular parts of the subject, as they come under notice; and the more especially as a greater complexity appears to be called for in the organization of the ear for the exercise of certain functions manifestly analogous to those of the eye; and therefore the following observations shall be in accordance with this arrangement.

Agreeable with those properties of light and sound, whereby their power and intensity diminish with the square of the distance, nature adopts suitable means for collecting the diffused rays of those agents in sufficient quantity, preparatory to their further concentration, that an impression of a necessary strength may be conveyed to the seat of perception. Thus, in the case of the eye, the collection of the rays of light is effected by dense refracting *media* (the cornea and aqueous humour), presenting an expanded convex surface anteriorly, while a funnel-shaped apparatus (the extended and generally concave surface of the auricle and external auditory canal), is employed for a similar purpose in the ear.

Now, although the *auricle* and *meatus auditorius externus*, with its short hairs and glandular apparatus (anatomically considered), unquestionably correspond with the palpebral appendages of the eye, comprehending especially the tarsal fibro cartilages, the *ciliæ* and *meibomian follicles*, yet the office of the auricle, in receiving the rays of sound, and transmitting them by the external *meatus* to the middle ear, is too important a function to be passed over in the simple notice of the anatomical analogy just mentioned. Indeed, the eyelids rather tend to diminish the quantity of light entering the eye, being watchful guardians against its excess, or the injurious contact of foreign matters; nevertheless, among savage tribes a corresponding function is enjoyed by the auricle and outer orifice of the *meatus*: for the muscles of the auricular region, and the small muscles of the *prima* itself (which are delicate and rudimentary in civilised nations), are largely developed, fulfilling all their offices (merely indicated by the course and attachment of their fibres in the European) with more or less energy. But the action of the *attrahens*, *attolens*, and *retrehens auris*, in perking or otherwise adjusting the auricle, bears a strict relation to its reception of sonorous undulations, and their transmission to the *tympanum*.

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* Foreign Med. Review, Oct. 1842, p. 547: Dr. Helmbrecht, Casper's Wochenschrift.

We have next to consider the means adopted by nature in both the eye and ear for the further concentration of their appropriate stimuli, effecting distinct vision and hearing in the respective organs. In the eye this requirement is fulfilled by a body (the lens) of greater density and refracting power than those employed primarily in collecting the luminous rays: and in the ear by a membranous expansion (the membrana tympani), having a conically depressed external surface, beautifully adapted for convening the rays of sound falling upon it, and bringing them to bear, by means of another much smaller membrane (the membrana fenestra ovalis), connected with it through the medium of several small and dense bones (the *ossicula auditus*), in a concentrated form upon the internal ear.

Now, whether (in a purely anatomical point of light) we consider the *membrana tympani*, overlaid with the lining membrane of the *meatus auditorius*, to represent the *cornea* of the eye, with its investment of conjunctive membrane, or to correspond, as Dr. Wharton Jones ingeniously supposes, to an accidental mediate anchyloblepharon, which is unquestionably the true opinion,* it is certain that sound suffers no further concentration than what the membrana tympani and ossicles effect upon it, independent of the influence which the *otakonia* may have in strengthening the impression; just as, in the case of the eye, no farther concentration of light takes place after its transmission through the lens, although we may as yet be unable to say what office the club-shaped particles of Jacob's membrane, and other complex parts of the *retina*, may exert in augmenting its operation upon the nerve.

Besides the power which the external ear enjoys (more or less) in modifying the amount of sound entering into the internal ear, analogous to that possessed by the eyelids in preventing an injurious excess of light from impinging on the *retina*, there are in both organs additional parts fulfilling this office more efficiently, and having reference both to the due exercise of the functions and the safety of each organ, and also seeming to effect those adaptive changes in them which must vary with the distance from whence their natural *stimuli* arise, and to induce in the eye and ear respectively a distinct perception of those objects or sounds to which the mind is especially directed, amongst a great many. Thus, in the eye, the iris, from its wonderful sympathy with the optic nerve, allows only those luminous rays to impinge on the *retina* which are necessary for distinct vision, shutting out, by contraction of the pupil, all that are superfluous and injurious; while the ciliary muscle, by constricting the ciliary processes, and thereby drawing upon the anterior wall of the canal of Pettit, which is fixed into the forepart of the capsule of the lens, appears to effect the necessary adaptation to distance; for the lens being soft and compressible towards the surface will admit of such changes in its figure as shall alter its convening power, and insure a distinct image at all distances. These functions, as far as we yet know, are performed in the ear by the muscular apparatus in connection with the moveable *ossicula auditus*, which by altering the tension of the *membrana tympani*, and exerting pressure on the *membrana fenestræ ovalis*, and thereby upon the *perilymph*, render the conducting power of those *media* more or less perfect, and thus adapt the organ to the reception of strong or weak, high or low, near or distant, sounds.

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* In examining the organ of vision in serpents, we perceive that what would at first sight be taken for a *cornea*, is in reality a natural mediate *anchyloblepharon*, which may be said to be analogous to the *membrana tympani*. Between it and the eye-ball itself a space exists corresponding with the cavity of the tympanum. This space is lined by the true conjunctiva (the occulo-palpebral sac of Cloquet), agreeing with the lining of the tympanic cavity: into this bag the lachrymal ducts open, and the lachrymal sac communicating with it is answerable to the Eustachian tube of the ear.

There seems to be a greater similarity of arrangement in the organization of the eye and ear, in this order of beings, than can be said to exist in higher forms of animal life; and also (as contrasted with the comparison of both organs in such animals) a stronger analogy between the eye of the former and the ear of the latter: and thus, by comparative anatomy, is indicated the relative superiority of the organ of vision to that of hearing.

The cochlea, with the membranous spiral lamina and *membrana fenestræ rotundæ*, may be noticed here, as answering the purpose of a safety valve, preventing the injurious influence of undue force applied; for, as Weber has shown, any pressure exerted by the *stapes* on the oval membrane causes a protrusion of the *membrana fenestræ rotundæ* towards the *tympanum;* so that the yielding nature of this membrane, and no doubt the membranous spiral lamina, compensates such pressure, and a delicate adjustment is effected, as the nature of the case may require.

Considering the external and middle divisions of the organ of hearing as necessary appendages, supplied in accordance with the general laws of sound, and affording those analogies, functional and anatomical, as relates to the organ of vision, which we have endeavoured to trace above, the internal ear remains to be noticed.

In this essential division of the organ of hearing (which has been appropriately termed the ear-bulb), a very close analogy is afforded to the eye-ball in nearly every particular; but there are many modifications in the figure and repetitions of the parts of the former, rendering the consideration of the subject complex.

The *membrana rotunda* (called also *membrana tympani secondaria*) has been likened to the *cornea.* The *scala tympani* and scala vestibuli of the *cochlea* have been respectively considered to correspond to the anterior and posterior chambers of the eye, filled with the aqueous humour (considered by Breschet as analogous to the *perilymph*), the *helicotrema* being answerable to the pupil. The *endolymph* corresponds to the vitreous humour; and the *otokonia*, or calcareous concretions, have been compared to the lens; while the several divisions of the auditory nerve, taken collectively of course, represent the *retina.*

With regard to the membranes, and many important considerations, reference must be had to Dr. Wharton Jones's excellent parallel (in Dr. Todd's Cyclopædia). But there is one point that has been overlooked by the writer of that article, which is, that the direct current of sonorous undulations unquestionably passes along the dense chain of ossicles to the labyrinth, through the *membrana fenestræ ovalis;* and the mere consideration of its yielding character, as bearing an analogy to the thinning of the sclerotica in the eye of the Greenland seal, is not satisfactory, for the functional parallel will distinctly show that it must be recognised as fulfilling the office of cornea to the ear, as well as the *membrana rotunda*, which cannot be exclusively assigned to the latter; and besides, it is alone in virtue of the *membrana ovalis* that an analogous function to that performed by the iris can be effected by the spiral lamina in the cochlea; except, indeed, what the cochlearis muscle (described in Dr. Todd and Mr. Bowman's Physiology) may exert in altering its tension: and the current of sound in the scala vestibuli must undoubtedly pass in the inverse direction to that which the anatomical analogy would lead us to suppose. Indeed, it appears that the sonorous current entering by the *membrana rotunda*, has its operation alone upon the cochlear nerve, the anatomical arrangement of which favours this opinion. This current in the *scala tympani* may be strengthened or modified in its operation by that from the *scala vestibuli.*

This consideration in reference to the cochlea is of deep interest; and how far it may be connected with the perception of pitch in sounds it is at present impossible to say: whether by a property of refrangibility in them, analogous to that of colours, a collision of the currents above noticed may take place in different parts of the scala tympani, according to the pitch, and thus (impressing the cochlear nerve in particular localities), enable the mind to perceive the relation that one note bears to another in the musical scale: or whether, simply by the flowing of the currents of sound in opposite directions (the impression being in effect doubled), the mind is better able to discriminate between notes of different pitches, and associate them according to their natural sympathies: and the due exercise of the law of interference no doubt is favoured by a such an arrangement. This supposition is heightened by the fact, that the most exalted function which the human ear, as well as that of the lower animals, possesses, is the discrimination of the pitch of sounds; and the existence of the cochlea is the highest mark of perfection in the organization of the ear.

There are many more points to be noticed in the functional analogy under consideration, which must be defered for a future communication.

[To be continued.]

ON THE

TREATMENT OF ASIATIC CHOLERA.

BY J. R. HANCORN, ESQ.

IN times of great and natural anxiety arising from the apprehended approach of a most formidable and fearful disease, —the more especially as the true nature of that disease is so indistinctly understood,—it appears to me requisite to call upon the proper authorities, whoever they may be, whether the Royal College of Physicians, or a Central Board of Health, to come forward and propose some legitimate line of treatment for the guidance of the profession generally, the majority of whom are in a great state of uncertainty as to the best mode of meeting the enemy, many not having seen a case, and all in doubt, which must necessarily, at the onset, lead to a fearful loss of life before their experience teaches them to pursue some rational mode of treatment.

In the absence of an authorised mode of treatment, it behoves every practitioner who has had the misfortune—or, I may say, under the circumstances, the good fortune—to witness this direful disease, to come forward and shew his experience for the guidance of others. This is my present object; and, without entering into a long and useless dissertation upon the pathology of the disease, I propose to offer a systematic course of medicinal remedies which, in 1831 32, I found most successful in the treatment of a large number of cases. This statement can be corroborated by Dr. Warden, then surgeon of Sheerness Dockyard; Dr. Gooch, of the Ocean flag-ship at the same port; and other surgeons.

Cholera is sometimes ushered in by simple diarrhœa; and at others it commences at once in the most aggravated form, and terminates in death in the short period, as I have witnessed it, of four hours.

In the former case it would be premature in me to offer suggestions; nevertheless, it will be perhaps advisable to give my treatment from its commencement to its termination.

If the attack begin with a feeling of nausea, a very gentle emetic may preface the other remedies, as Pulv. Ipecac. ℈ij.; but, if there be merely uneasiness and relaxation of the bowels, then the following:—℞ Ext. Opii, gr. ij.; Hyd. Chlorid. gr. iv. in pill, to be followed in two hours by castor oil, ½ oz. About two hours after this give two table-spoonfuls of the following mixture every two, three, or four hours, according to the urgency of the symptoms:—℞ Ammon. Sesquicarb. ℈j.; Sodæ Sesquicarb. ʒj.; Conf. Aromat. ʒj.; Tinct. Capsici, ♏xxx.; Liq. Opii Sedat. ♏xxx.; Misturæ Camph, ad ℥vj. Misce.—℞ Hyd. c. Cret. gr. iij.; Pulv. Capsici, gr. iij. in powder, to be taken every four hours, as well during the collapse stage as that of simple diarrhœa, always taking care that the mercurial preparation be not carried too far; it being of the utmost importance to keep up the secretion of the liver, the proper action of which will be found to be the great security against the after-consequences, viz. typhus fever.

Should the Asiatic cholera supervene, I would strongly urge my professional brethren to try the styptic remedy which I found so remarkably successful in 1832, viz. *Tinctura Ferri Sesquichloridi*. This was my sheet-anchor, and I gave it in as concentrated a form as possible immediately after each ejection.

Whatever may be the nature, cause, or original seat of disease in Asiatic cholera, the effect produced appears to be an atony of the secretory and excretory ducts and mucous follicles. It therefore follows as a natural indication to restore power and tone to these vessels as speedily as possible, and this is best effected by the administration of styptics. When I used the Tinct. Sesquichlor. in 1831-32, its immediate effect in reducing the quantity of fluid ejected was truly astonishing, and it gradually diminished after each dose, until it ceased altogether, and the cure was effected. It should be remarked, that, after this medicine, the evacuations, instead of being like rice-water, are black. This should be explained, otherwise the bystanders become much alarmed, and fancy that mortification has ensued.

As a local application for the relief of cramp, I found the following liniment far preferable to mustard poultices, not only from its stimulating properties, but because the requisite friction in using it is of itself an efficacious remedy:—℞ Acid. Sulph. Fort. ʒiss.; Ol. Olivæ, ʒiss. M. ft. liniment.; the only objection to its use being its destructive action on the linen, which is of little moment, considering the direful nature of the malady.

The hot-air bath should be had recourse to. This is easily effected by means of a small spirit-lamp and apparatus on the principle of Sir H. Davy's safety-lamp, which is merely placed under the bed-clothes, when any degree of heat may be induced.

I cannot too strongly urge the avoidance of brandy or large doses of opium: they both enervate the system, prostrate the vital energies, and though the extreme coldness of the surface of the body, the coldness of the tongue—nay, the coldness of the breath itself—would seem to indicate the former, yet it is not so, for the patient complains of the most agonising thirst, and intense heat in the epigastric region, which is best allayed by the free use of iced soda-water, iced champagne, and even small pieces of ice retained in the mouth, and occasionally swallowed.

ON THE

FORMATION OF PEARLS IN THE URINARY BLADDER OF A BULLOCK.

By Alfred S. Taylor, F.R.S.
Lecturer on Chemistry, &c. in Guy's Hospital.

I lately received from Mr. Image, of Bury St. Edmunds, several concretions which had been taken from the urinary bladder of a bullock. They were perfectly spherical, and varied in diameter from about the sixteenth to the eighth of an inch. They had a light yellowish colour, and some of them were strongly iridescent with a distinct pearly lustre. The largest, which was about the eighth of an inch in diameter, weighed only 0·6 grain, but it was bulky compared with its weight. The mean specific gravity of four of the calculi was found to be 2. The surface had no appearance of roughness, or of a crystalline character: it was smooth and shining; and, from the examination of a fractured portion, it was found that the calculus was made up of very thin concentric laminæ, having the same pearly iridescent lustre. It was so hard as to require trituration in an agate-mortar, in order to reduce it to a fine powder. The first effect of pulverizing the calculus was to separate it into fine scales, having a strong nacreous lustre, and of a light golden yellow colour. There was no nucleus.

A portion of the fine powder, which was of a brownish white colour, when heated on platina gave out the smell of burning animal matter, and a slight carbonaceous residue was left. When this was burnt off, a white alkaline ash was obtained, which was proved to be lime. Another portion of the powdered calculus was entirely dissolved by all acids with effervescence, and the solution was found to consist of a salt of lime, without any admixture of magnesia or phosphoric acid. There was no uric acid present. Hence the concretion was proved to be carbonate of lime arranged in spherical layers, and intermixed with a small portion of animal matter.

Mr. Image informs me that no less than 150 of these calculi were taken from the bladder of the bullock.

Urinary concretions of carbonate of lime are very unusual in the human subject. They are, however, frequently met with in a rough and amorphous state in herbivorous animals. Dr. Bird* is, so far as I can ascertain, the only writer who has pointed out the strong resemblance to pearls which these concretions occasionally possess. This singular fact is not noticed by Scharling, Vogel, or L'Heritier, nor can I find any description of them in the last edition of Dr. Prout's work on Renal Diseases. Dr. Bird appears to have met with them of very small size compared with those examined in the present case, since he speaks of their appearance under the microscope. He says of them—"These beautiful little bodies present a remarkable resemblance to pearls, the well-known concretions of the pearl-oyster. Indeed, they may almost be regarded as urinary pearls."

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* Urinary Deposits, 2d edition, p. 247.

I have since procured some of the oyster-pearls rejected by jewellers in consequence of their dark colour, and find them to be, in physical structure and chemical composition, identical with those taken from the bladder of the bullock. There is nothing surprising in this analogy, when it is considered that the oyster is partly composed of mucus similar to that of the mucous lining of the urinary bladder, and that the base lime is present in sea-water as well as in urine. Under some morbid condition of the system, the lime meets with carbonic acid, and, when the deposit takes place very slowly and uniformly around a centre, a sphere of carbonate of lime, having a pearly lustre, may be thus formed in either case. Pearl consists of concentric layers of carbonate of lime interstratified with animal matter.[*] When this is abundant, and of a dark colour, the pearl is rejected as unfit for ornamental purposes. Dr. Ure states that the oyster-pearl is formed under a disease caused by the introduction of foreign bodies within the shells. In making a careful examination of an oyster-pearl, I have found no foreign body: the whole consisted of carbonate of lime, the internal portion being of a brownish colour, and amorphous, while the external portion was composed of thin concentric layers having the usual pearly lustre.

MEDICAL GAZETTE.

FRIDAY, SEPTEMBER 15, 1848.

In another part of the journal[*] we insert two letters in reference to a subject which has of late greatly attracted the attention of the public—namely, the concealment of murder by secret poisoning. The one is addressed to the *Times* by Mr. Payne, Coroner for the City of London, and the other to our respectable contemporary, the *Provincial Medical Journal.* The latter will be found to furnish a satisfactory answer to the former. Mr. Payne's remedy for an evil of this kind is—"More coroners' inquests;" while Mr. Prichard suggests "More post-mortem inspections, and greater circumspection in holding inquests." That Mr. Payne, occupying the office of coroner, and deriving a salary from the *number* of inquests held, should consider the remedy to lie in increasing the number, is natural enough; but his conclusion is so little supported by the facts which he adduces, and is so adverse to that which a comprehensive and disinterested view of the subject would suggest, that we must take the liberty to examine his statements rather closely. This is the more incumbent upon us, because the subject is really one of great public importance; and, in an article recently published, we have arrived at conclusions wholly different from those advocated by Mr. Payne. Like an unskilful logician, he adduces instances of impediments thrown in the way of holding inquests in all other districts except in *that* which is especially in question. It cannot, we think, be imputed to the coroners or magistrates of Essex that they are neglectful in the performance of their public duties. On the contrary, we have reason to believe that there is no county in England provided with coroners more active in their office, or with magistrates more liberal in awarding those expenses which are necessarily incurred in the investigation of crime. The conduct of the justices of Devon, therefore, in refusing payment of the fees for an inquest held, as we believe, most unnecessarily, or of the Norfolk or Lancashire magistrates, is quite irrelevant to the present inquiry. The discouragement of inquests by magistrates has not yet extended to Essex: hence Mr. Payne's theory fails to account for the temporary concealment of murders by poison perpetrated in that county. The array of facts which he has brought forward, appears to shew that coroners' inquests are not held so frequently as they ought to be; but we could easily collect a much larger number, proving clearly that they are too often held in cases in which not the least suspicion of death from violent causes could be entertained. The fact is, an excess of officiousness one way begets neglect in another. An aged person dies in the presence of credible witnesses, or while under the supervision of a respectable medical practitioner. Neither food nor medicine may have passed the lips of this person for many hours previously to death: there can therefore be no pretence for alleging that the individual has been poisoned, and there is not the slightest reason to suppose that any violence has been offered to accelerate or cause death. Such a case, however, is very frequently made the subject of an inquest, apparently on no other ground than that the salary of an over-zealous coroner is actually dependent upon the number of inquests held. It cannot be for the purpose of what Mr. Payne denominates "the certainty of detection" of crime, for the plain reason that, in nineteen out of twenty such cases, a *post-mortem inspection is not* considered *necessary*: and how, in a case really demanding inquiry, there can be any *certainty of detecting* crime without this very necessary procedure, we are quite at a loss to understand. But then we are told by the writer:—

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[*] From an analysis made by Mr. Hatchett, a pearl was found to consist, in 100 parts, of 66 carbonate of lime, and 34 of animal matter. *Mother of pearl* has the same composition. The iridescence of pearl is very great when the grooves or edges of the laminæ are made to appear by artificial cutting. It is not commonly known that pearl, thus cut, will give an iridescent impression on black sealing-wax or fusible metal: thus proving that colour often depends on the physical conformation of surface.

[*] See pages 471 and 172.

"It is the certainty of investigation that operates as the preventive to crime; and nothing tends so much to the encouragement of crime, as the course adopted in some counties of discouraging these investigations."

We fully agree in this proposition, but it rather tells against Mr. Payne's argument; because, while he is calling out for more inquests, the public and profession have the strongest reason to complain, that, in the majority of cases, inquests are held in so slovenly a manner, that certainty of investigation is entirely lost sight of. Let us take the second case adduced by Mr. Prichard,* which is only the type of some hundreds of cases that occur yearly in this country. A child is found dead in bed; an inquest is held; the jury look at the body, and come to the conclusion, without a post-mortem inspection, which the coroner does not consider necessary, that the child has died in *a fit!* Is this "the certainty of investigation" which Mr. Payne regards as a sure method of suppressing the crime of secret poisoning? Or, to put the question in another form, is it not likely to encourage murder by poison, to hold what is called an inquest on a body, without requiring a post-mortem examination? The most ignorant person knows that the traces of the action of poison can be detected in no other way; and murderers are thus taught to speculate upon the chance that, if an inquest should be held, the crime may be overlooked. Mr. Prichard's case is by no means a solitary one : the former volumes of this journal, as well as of our contemporary the *Lancet*, abound in letters of complaint from medical practitioners on the neglect of post-mortem inspections at coroners' inquests, and on the concealment of deaths from suspicious causes. The Registrar-General has also, in his yearly reports, called especial attention to the general neglect of inspections on the part of coroners, and of their allowing verdicts to be returned upon mere conjecture. A valued correspondent, quoting the report of the Registrar-General for 1841,[*] states that out of no less than 6708 cases of sudden death, which became the subjects of coroners' inquests, during the years 1838-9, the *cause of death* was not ascertained in *one!* In fact, in two out of three sudden deaths, the verdict is what is called open, *i. e.* "found dead," "died by the visitation of God," &c. We should not object to this, if inspections were made, but they are *not* made, and thus many instances of death from poison must certainly escape detection.[†] With a knowledge of these facts, accessible to every one holding the office of coroner, we must express our great surprise that a writer should have the courage to state in a public journal, that *more* inquests are required if we wish to suppress the crime of secret poisoning; when the fact is, that in *two-thirds* of all inquests, as at present conducted, no pains are taken to determine the cause of death, and the case is left exactly where the coroner found it, to be re-examined by magistrates when an enormous expense has been already saddled on the country by fruitless investigations.

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* See page 472.

Thus, then, the very condition which the writer of this letter holds to be necessary—namely, "certainty of detection," is proved to be actually wanting. A coroner's inquest without a post-mortem examination, in a case of real suspicion (and under no other circumstances is an inquiry for *public purposes* really demanded), is "a mockery, a delusion, and a snare."

If Mr. Payne had stated the whole case fairly, he might have quoted at least half a dozen instances within the last two years, where murder by poison had been proved on the exhumation of bodies some months after interment, — although coroners' inquests had been held (without inspection!) immediately after death, and verdicts of deaths from natural causes had been returned. Thus, then, we are really constrained to arrive at the conclusion, that Mr. Payne's remedy for this social evil is no remedy at all. It is not the mere holding of an inquest which will put an end to secret poisoning. This, as Mr. Prichard observes, may be most important to the coroner; but the other party concerned —namely, the public, has a right to expect that there shall be a proper degree of care in the investigation; for, without this, there can be no certainty of detecting crime. Post mortem inspections undoubtedly entail great trouble and expense,—they cause frequent adjournments,—give rise to heavy medical charges,—and swell the quarterly accounts. Against these evils must be balanced the shock to public feeling occasioned by the exhumation of bodies months and years after burial, with the discovery that an extensive conspiracy against life has been going on in the midst of a population, uncontrolled and unchecked, and that murders by poison have been registered as "bowel-complaints," or actually concealed under the solemn mockery of an ill-conducted coroner's inquest.

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[*] See our volume xxxvi. p. 592.

[†] For three cases of this kind, see the paper above alluded to, vol. xxxvi. p. 592. Since these remarks were in type, we have been informed of a case of recent occurrence, which is well calculated to test the value of Mr. Payne's remedy of "more inquests." A boy died somewhat suddenly, and there was a suspicion that he had died from a violent cause. The coroner did not require a post-mortem inspection, and, under his direction, the jury returned a verdict of "Died by the visitation of God." The body was subsequently examined by a medical gentleman, who found in the trachea a mass of the pith of elder, which had blocked up the bronchi and led to death by suffocation! So much for the certainty of detecting the cause of death by *inquests*

We have been induced to make these remarks, from the conviction that the *ad captandum* argument of "more inquests," is unsupported by fact or reasoning. Addressed to a public journal like the *Times*, it is calculated to have a certain effect with those who are not aware of the whole bearings of this question, even although it obviously proceeds from the pen of one who has a direct interest in increasing the number of inquests. It should have been fairly stated —1, that these secret murders by poison had been discovered in cases in which a coroner's jury had already returned an erroneous verdict upon an imperfect inquiry, which it was in the coroner's power to make perfect; 2, that for the detection of death by poison, an inspection of the body is imperatively necessary, and that in the greater number of inquests no inspection is made; and 3, that, although "certainty of investigation" is a sure preventive to crime, the coroners' inquest, as at present conducted, does not ensure this. On the contrary, in the most difficult and insidious form of violent death—namely, by poisoning, it affords, by the neglect of post-mortem inspections, a ready means of escape to the guilty.

We shall conclude by remarking that Mr. Payne's facts are as little to the purpose as his reasoning. His letter professes to be on the Essex poisonings; but, as we have already remarked, he can adduce no ground of complaint against the coroners or magistrates of that county. The case which has called forth this strong advocacy of inquests as a panacea for provincial Thuggism, has no bearing upon the frequency or infrequency of holding such investigation, unless the writer means to contend that an inquest shall be held upon the body of every person who dies,—a very profitable doctrine to coroners, but one of a very uncomfortable nature to the public, whether regarded in a financial or social point of view. The case of murder, which has called forth his letter, would, most probably, have been overlooked and treated as one of natural death, by the keenest constable and coroner in the land. The deceased lived with his wife and servant. He had been for some time an invalid, labouring under an affection of the stomach and bowels, for which he received medical attendance occasionally. He was taken rather suddenly ill, and was nursed only by his wife, (who was charged with having administered arsenic to him), the servant-girl being kept out of the way. The deceased had thrown off blood, and from the account given to the medical attendant by the wife and servant, he was induced to assign as a cause of death, spitting of blood. This, we believe, was registered accordingly. Moral circumstances which have since come to light were kept studiously concealed, and, in short, there was nothing to excite suspicion or apparently to call for an inquest. Many such cases have very likely occurred in other localities, and perhaps still remain concealed. The "discouragement of inquests," therefore, has no more to do with this case than Tenterden Steeple with the Goodwin Sands. Any medical practitioner may be deceived by false statements; and where there is only one ignorant witness, the truth is not likely to transpire. Medical men are especially liable to be thrown off their guard, when they have been for some time previously in attendance upon the deceased. Hæmoptysis also is not an unfrequent cause of sudden death. These facts offer some apology for the practitioner in this case, but there is no doubt that more caution is demanded from medical men in furnishing certificates of the causes of death. To suspect poison in all cases of sudden death, would be productive of great injustice: at the same time, the symptoms of poisoning are often very obscure, and of an anomalous kind; and thus one not accustomed to the investigation of such cases may be readily deceived. There is, however, one rule which it would be advisable for a practitioner to follow—namely, to decline giving a certificate without a post-mortem examination, when the deceased has not been seen by him *recently before death*, and when the only account of his illness can be obtained from one or two ignorant persons around him. In such a case, it is quite obvious that a medical man has nothing whereon to found an opinion, and he had better leave it to the wisdom of a coroner's jury to return a verdict from an outside view of the body, to the effect that the deceased had died from "natural causes," than to take that responsibility upon himself.

There is another circumstance upon which medical men have often justly complained. The certainty of detecting death by poison depends generally upon chemical and pathological researches of a most elaborate kind. Some coroners, when compelled by the public nature of the case to call for this assistance, manifest the greatest unwillingness to remunerate the medical practitioner for his time and services. In some instances, as our own pages have testified, the claimant has had to seek his remedy in the County Court even for the small Parliamentary fee, and has been then defeated by some technical quibble. In short, the whole system of investigating crime is defective, and until it has undergone a thorough reformation, we cannot hope to avoid those discoveries of secret murder by poison, which have of late years been laid before the public.

It would not be fair if we did not state that the efforts of coroners to perform their duties, with a due regard to the responsibility involved in the result, are in certain districts thwarted by the injudicious economy of the magistrates. The following extract, taken from the *Times* of Saturday last, will show to what an extent this evil prevails in the great metropolis:—

Middlesex Sessions.

"*The Coroner's Accounts.*—The report of the committee for accounts and general purposes having been read, it appeared that that body had made a deduction from the account of Mr. Bedford of £4 4s., which had been paid by that gentleman for what we presume were some extra-professional services rendered by a second medical gentleman in the *post-mortem* examination of the body of Mary Anne Theresa Dore. The matter was thus alluded to in the report:—

"'As regards Mr. Bedford's account, your committee have to observe, that in the voucher of disbursements in the case of an inquest held on the body of Mary Anne Theresa Dore, there is a charge of £4 4s. paid for "sundry analyses," in addition to a fee of £2 2s. paid to another medical witness for making a *post-mortem* examination, which is the fee, with or without an analysis of the contents of the stomach, authorised by the 6th and 7th William IV., c. 89, to be paid; and as it appears to your committee that the court are precluded from allowing the said charge of £4 4s., they have deducted the same.'

"The report was received and adopted."

In this case two medical gentlemen, as we understand, inspected the body for the inquest, for which the usual Parlimentary fee of two guineas was allowed. Being unable, we presume, to make an analysis of the stomach and its contents, these were sent, under the sanction of Mr. Bedford the coroner, to another medical gentleman living near them, who was engaged in researches of this kind, and the result was, that poison was detected in the stomach. The fee of four guineas was exceedingly moderate, considering the nature of the services rendered; and the coroner paid it. The magistrates now refuse to reimburse the coroner, and have thereby actually *fined him four guineas*, because the chemical analysis was entrusted to one who had given attention to the subject! The Middlesex magistrates have, therefore, practically decided, by this refusal to allow a necessary and reasonable charge, that coroners in the metropolitan districts must hereafter adopt one of two courses: 1st, either compel those who inspect a dead body, whether they know anything of chemistry or not, to make an analysis and give an opinion which cannot be sustained at a trial; or 2nd, to pay out of their own pockets the fee which may be necessary to secure the labour and judgment of one who is competent, and on whose opinion some reliance may be placed. This is a serious alternative; and it is clear that either the course of public justice must suffer, or the coroner must bear an onerous charge, wholly incommensurate with his fees of office. This will be found to be a foolish system of economy in the end. Men will not be found who will give their time to the post-mortem examination of a body, including a complete chemical analysis, that may occupy two or three days, for the paltry sum of two guineas. It is no answer, that the Act of Parliament does not allow *more*; the objection is, that it does not allow *enough* to cover even reasonable expenses, where these intricate researches are properly carried out. If an Act of Parliament fixed a Coroner's fee for each inquest at five shillings, and threw upon this officer all the expenses attending the inquiry, no one would be found to take the office! There would be no satisfaction in knowing that coroners at one time (like medical witnesses, until the passing of the 6th and 7th Will. IV., c. 89), performed these responsible duties without being paid; and, although an Act of Parliament is all-powerful, it cannot compel any man, in a case of this kind, to give his scientific labour for less than it is worth. As in the former part of this article we have condemned the sophistry of one metropolitan coroner, in endeavouring to *improve* on a recent murder, for the sake of increasing the *number* of inquests, we feel in justice bound to defend the conduct of another who has only performed his duty conscientiously. We must take leave to remind the Middlesex magistrates, that this system of disallowing necessary fees will be attended with one of two consequences. Either cases of poisoning will go without detection, or if sent for trial on the opinions of gentlemen not used to chemical investigations, they will certainly end in an acquittal; and while the expense to the county will be thus increased tenfold, the ends of justice will be defeated, and the law defied.

Reviews.

A Treatise on Diet and Regimen. By William Henry Robertson, M.D., Physician to the Buxton Bath Charity. Fourth edition, in 2 vols. 8vo. pp. 355, 362. London: Churchill. 1848.

This book is one of those the object of which is to convey information to the general reader on subjects which are but little known to the public generally, although constituting the elementary knowledge of the medical student.

Besides the direct importance of subjects having reference to health, the author anticipates that information of this nature, diffused among the reading public, will tend, more than any legislative act, to the suppression of quackery.

In his introductory chapter, which treats of Hygiene, Dr. Robertson says—

"It is a question that is intimately bound up with the well-being of the people, and which is essentially dependent on the personal efforts made by medical men, to extend to the masses of the population some general information as to the principles and reasonings, the facts and deductions, on which the art and practice of medicine are founded and built. This is no less than the suppression of quackery in the treatment of the diseases of mankind, or, at least, its gradual removal—an end perhaps only to be attained, or even approached, by these means. It would probably signify but little even if the Legislature were to resign its greater or less profits on the sale of quack medicines, and no longer invest them with the legal stamp, which gives them a sort of national sanction. It might not, perhaps, have any very great influence, even if our Universities and Colleges were to make a decided stand against empiricism in all its shapes, and signalise the determination by expelling from their numbers every member of the profession proved to have lent himself to any of the impostors that delude mankind,—consigning those who practise, and those who aid and abet the practice, of any of the forms of charlatanism, to a notable dismissal from our ranks. It might signify but little if the Legislature were even to forbid the sale of unprescribed medicines,—to place the health of the people at large in the care of public and fully qualified medical officers, and ascertain duly the fitness of every one practising the profession in the cases of individual disease,—visiting every one found guilty of practising without such qualification with an amount of punishment proportionate to the degree of misdemeanour. All such means, admitting that they are steps in the right direction, and such as a well-informed Legislature might be justified in adopting, and the protection of the public from the wrong inflicted by the ignorant or the knavish might appear to demand, are liable to be regarded as an unfair and uncalled-for interference with the liberty of the people, until the public mind is so fully informed of the expediency of such measures, so fully alive to the irrationality and knavishness of quackery in all its shapes, as, in fact, to require no protection from its machinations, unless in the case of the lowest and least informed remnant of the people, over whom a Legislature might feel the kindness and necessity of throwing the shield of its enactments, as a safeguard against the efforts of the designing and unprincipled." (p. 26).

In his second chapter, the author considers the process of digestion, and examines the degree of digestibility of various kinds of food, and the relative quantity of nutriment which they contain, as well as the effects of cookery upon aliment, &c. We do not recognize any original views in this part of the work, except perhaps in the following paragraph, which refers to the action of alcohol.

"The probable action of alcohol on the economy of the system is, by permeating the tissues rapidly, to come into very speedy and very general contact, by many and extensive surfaces, with the oxygen of the arterial blood, and to combine with it, giving its carbon to the oxygen, forming carbonic acid,—its hydrogen to the oxygen, forming water; the effect being the disengagement of heat, independently of any alteration of the tissues, or of the conversion of arterial into venous blood by the union of oxygen with the carbon of the blood, upon which, under ordinary circumstances, the elevated temperature of the body is known to depend." (p.255).

Dr. Robertson also considers the subject of the quantity of food necessary for the support of man, and in order to elucidate this point, he produces the diet-tables of hospitals, workhouses, and gaols, and comments on their results.

The second volume is devoted to the consideration of Hygienics, including exercise, ventilation, clothing, bathing, the use of mineral waters, sleep, the effect of occupation on health, and on cultivation of the mind.

If there is nothing original in the author's views of these subjects, or in the mode in which he treats them, he has carefully looked for the best authorities, and has taken pains to render his book useful to those who seek this kind of information. The reader will find enough of good sense and perspicuity, as well as importance in the matter itself, to repay him for the perusal of these volumes.

The Ethnological Journal. A Magazine of Ethnography, Phrenology, and Archæology, considered as Elements of the Science of Races. Edited by Luke Burke, Esq. Nos. 1, 2, and 4—June, July, September. London: Baillière, and Renshaw. 1848*.

Clericus clericum non decimat. In bringing before our readers a short notice of a new contemporary journal, devoted to a new subject, we do not mean to violate the above wholesome rule. In the present instance there would certainly be no occasion for its violation, since the novelty and interest of the contents of the new journal are sufficient to call for high commendation.

What is *Ethnology?*† Most of our readers will not require to be told that it is "the science of races," or, to adopt the definition of the Editor, it is that science which indicates the mental and physical differences of mankind, and the organic laws upon which they depend, and seeks to deduce from these investigations principles for human guidance in all the important relations of social existence.

Such a science appears to have, at first view, but little relation to medicine; it rather concerns the philosopher, the political economist, and the legislator. Mr. Burke, however, strives to prove, and we must admit, not unsuccessfully, that, although less apparent, it has some bearings upon the science of medicine.

> "Every experienced physician knows the importance of an accurate estimate of *temperament* in the administration of medicines and the general treatment of disease. But Ethnology will shew that temperament is but another term for *race*, and that it is only by a careful study of races, whether pure or mixed, that the physician can ever hope for accurate knowledge in the intricate subject of constitutional idiosyncrasies. Even in its present condition, Ethnology is capable of supplying to the practitioner many valuable principles and rules of action. In a more advanced stage it will be considered as an essential branch of medical science." (p. 3).

Our student-readers need not be under any apprehension that the study of this science will be speedily added to the curriculum of a medical education. The Examiners of the various Colleges are as yet unprepared to put ethnological questions; and the profession must undergo a complete reformation before the study of the philosophy of medicine is made imperative upon those who, when they have received a diploma, are compelled to make a hard struggle for a living, and are often induced to abandon the profession in despair. By these remarks we do not intend to depreciate the subject: it has interest and value which will always recommend it to those who have reached that easy stage of professional existence in which they can withdraw from practice and devote a portion of their time to the cultivation of science.

The first number of the Journal contains, in a series of propositions, the fundamental doctrines of Ethnology. Some of them will startle readers who have not hitherto considered the range of the new science; but they open out enlarged views of the physical history of mankind. Writers on this subject have hitherto contented themselves with the accumulation of facts; but we have in this publication deductions from the facts, and a practical application of principles with a view to social improvement.

The nature of the contributions to the journal may be understood from the list of papers in the three numbers before us. *Outlines of Ethnology. A Critical Analysis of the Hebrew Chronology. The Ruling Idea of the present political era. On Varieties of Colour in the Human Hair. The Destruction of Atlantis, with Glimpses of the Antique History of the Sacred Races. On Varieties of Complexion in the Human Races. The Nature and Origin of Mythology. On the true nature of Animal Mechanism, &c.* A portion of the journal is also devoted to the criticism of works bearing on the subject of Ethnography.

The titles of these articles are sufficiently novel to excite curiosity; but in some which we have read, this feeling soon gave place to a deep interest. The subject of the physical differences of mankind is very ably treated; and we can bestow great praise upon an article in the first number, entitled The Ruling Idea of the present political era; although it might be inferred from this title, that the essay had a closer relation to ephemeral politics than to scientific anthropology. We have not met with a subject more ably handled in the best critical reviews. The mode in which the recent eventful changes among nations are traced to their ethnological bearings, is not merely ingenious, but so far as we are able to judge, based upon sound views of human nature. The style is excellent, and the language often eloquent. The reprint of this article, and its general circulation, would, we are persuaded, be productive of much good. It would serve as a perfect antidote to the poison of the revolutionary demagogue, whether in politics or medicine.

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* No. 3 of this journal has not reached us.

† Derived from εθνος, tribe or race, and λογος, discourse.

From these remarks our readers will judge that we think favourably of our new contemporary. The articles contained in the three numbers before us display more than that average amount of ability which we are accustomed to meet with in a new periodical devoted to a difficult and untried subject.

Proceedings of Societies.

ACADEMY OF MEDICINE.

August 1, 1848.

President—M. Royer Collard.

MM. Roux and Malgaigne *on the gun-shot wounds admitted under their care after the insurrection of June.*

M. Roux.—The Academy has not forgotten the different circumstances which, since 1830, have offered to the surgeons of Paris the opportunity of observing gun-shot wounds. The Parisian hospitals have several times received a great number of wounded, and the surgeons have thus acquired that experience which is usually reserved for army medical officers. The events of 1830, both in rerelation to science and art, were not unfruitful. Dupuytren gave some excellent lectures, which, being collected by his pupils, remain to science. M. Jobert published the results of his numerous observations; and, with the permission of the Academy, I would recal my own surgical memoirs of the days of July.

Other occasions have presented themselves since, especially in June 1832, when we were called on to observe gun-shot wounds; but silence was then a duty. The last insurrection, so disastrous, and at the same time so full of instruction, imposes on surgeons the obligation to state what they have seen and done; for the revolution of 1830 had not so many victims as the insurrection of June 1848.

It seems to us that the peculiar circumstances, as well for the wounded as the surgeon, which result from these street combats, permit certain observations which cannot be made on the field of battle. It was thus that, in 1830, I was able to call attention to certain peculiarities, hitherto unknown, with regard to primary hæmorrhages. The wounded in our insurrections are not under the same conditions as the wounded on the field of battle: they receive aid more promptly; they have not to pass over great distances in being carried to the hospitals: and on the other hand, the surgeons may observe the patients very soon after the receipt of their wounds.

There is another point of interest in the comparison that we may make between these different great catastrophes which result from our unfortunate civil discords. Although gun-shot wounds always present the same characters, yet they offer, in addition, certain varieties, according to times, circumstances, and political events. In the same way that each great epidemic, even where the nature of the disease is the same, offers a physiognomy—a character which is proper to it, so we may say that these great traumatic epidemics (so to speak) offer characteristic features distinguishing them one from the other. Recal the sad spectacle which was presented by our wounded in 1814 and 1815—their *morale* being broken down by defeat, yielding them up victims to typhus and hospital gangrene. In 1830, on the contrary, we had only victors, exalted by victory, on whom deleterious agents took less effect. In the late events, the vanquished are sad and silent—the victors have neither exaltation nor enthusiasm; they have the cold and calm sense of a duty accomplished, a feeling not reacting materially on the wounded condition in which they have been placed.

I shall divide into two parts what I have to say: in the first I will present a view of the facts which I have observed; in the second I will consider certain controverted points as to the treatment of gun-shot wounds.

Relation of the facts.—The Hôtel-Dieu, from its central position and proximity to the seat of the insurrectionary combats, received a great number of wounded. These were distributed under three principal surgeons—MM. Blandin, Boyer, and myself.

The number of those devolving to my care were 179—168 being men, 11 women. It is the first time I have received so great a number of women. In the former events, those who have been brought were wounded accidentally; in the last, the greater part of them received their wounds combatting either with the defenders of order or the insurgents.

Among our wounded there were but twelve insurgents; the rest belonged to the National Guard or the different corps of the army. They were almost all young, we even received a boy of twelve years of age, the oldest was forty-two years of age.

Their appearance was generally tranquil. Here I may be permitted to pay a just tribute to the wounded among the "garde mobile." These youths, who have been so admirable in valour during the battle, have not been less admirable in patience, resignation, modesty, and courage. The dejection of the wounded insurgents has not been such as we have observed among those wounded under different circumstances, especially in 1830.

Notwithstanding these favourable circumstances, we have a somewhat great mortality: it had been twenty-five during the first twenty-four hours, now it is sixty,—that is, the third of our wounded. One or two more may yet sink among the forty remaining under treatment. The results were slightly more favourable in 1830. I received then nearly the same number of wounded, and the mortality was somewhat less. I performed, at the two periods, nearly the same number of amputations; among these the mortality was nearly the same. I am induced to think that, at the different periods, the statistical results were nearly the same.

We have had very few sword wounds; all the others, except one, were caused by balls or other analogous projectiles. Nothing whatever authorises the belief that the balls were roughened (a plan that would, I conceive, have no influence on the gravity of the wounds) or poisoned.

Almost all the balls presented a complete traject; that is to say, had an opening of entry and one of exit, so that I have only had to extract five balls.

Wounds were, perhaps, more frequently in the upper part of the body among the insurgents, and hence there was among them a greater mortality. This is explained by the different position of the combatants. The insurgents, concealed behind their barricades, only received wounds when they exposed the upper parts of their bodies; while the defenders of order exposed equally all parts of their body to the fire of the barricades. Among our wounded the variety of the seat of wound was great: we had sixty wounds of the limbs. We have practised ten primary amputations, namely—

	Deaths.
3 disarticulations of the arm (shoulder joint)	1
1 disarticulation of the elbow	1
1 partial amputation of the foot	
1 amputation of the leg	1
3 amputations of the arm	2
1 amputation of the thigh	1

Total—6 deaths in 10 primary amputations.

We have practised four secondary amputations, namely—

1 amputation of the arm	1
2 amputations of the thigh	2
1 amputation of the leg	

Total—3 deaths in 4 secondary amputations.

I might make many observations on these tables, but I reserve them for the second part of this communication. I cannot, however, refrain from remarking that, of three disarticulations of the arm (shoulder joint) two have succeeded. This operation, at first sight so formidable, is not so grave as has been supposed. We know the practice and energetic conviction of M. Larrey on this point; we know how frequently he disarticulated the arm for wounds, which, in the eyes of the greater number of surgeons, would only have demanded amputation at the arm: perhaps Larrey may be reproached with abusing this operation, but I have myself arrived at the conviction that amputation at the shoulder-joint is not more grave, so far as life is concerned, than amputation of the arm, and that it is indifferent whether we practise one or other of these operations (movement).

One disarticulation of the elbow has been practised, and it has been fatal. This operation was performed in my absence. I never would amputate at the elbow-joint, and I consider the operation contrary to sound surgery. I would be understood not to blame my colleague, who, on this point, does not share my convictions.

Of the four secondary amputations, three died—a painful result, which confirms the opinions I have developed on the incontestable advantages of primary amputation.

In 1830, I obtained results more advantageous for primary amputation than I have this year, since, after ten primary amputations, I had but three deaths. The secondary amputations were, on the other hand, more fatal, since, after five amputations, not one recovered! Nevertheless, I ought to state that in February my secondary amputations were more fortunate, since three have succeeded (two at the arm and one at the forearm), as also succeeded an amputation at the shoulder-joint, on a youth of fifteen years of age, the only primary amputation I had occasion to perform at that period.

In one remarkable case, a wound of the head occasioned paralysis of the arms.

Among the whole of the cases we have had no case of primary hæmorrhage, and only one in which there was secondary hæmorrhage,—a case requiring the ligature of the brachial artery; gangrene has only occurred once; there has been no tetanus,—this is probably due to the prompt assistance afforded: if tetanus appear more frequently in the army, is it not due to the peculiar position of the wounded, exposed to long marches and the vicissitudes of the weather? As an offset to these favourable results, we have had many cases of purulent absorption.

I have to consider the question of surgical treatment, but, with the permission of the Academy, I will continue the subject at their next meeting.

8th of August.

President—M. Royer Collard.

The discussion on gun-shot wounds was resumed.

M. **Baudens** read an extensive memoir on the subject under discussion.

M. **Roux**, not being well, gave place to

M. **Malgaigne**, who said: I intended only to have treated of one of the subjects connected with the point under discussion, but the memoir we have just heard will oblige me to go into other points. I would say, at first, that we have been less successful than M. Baudens, having lost a greater number of our wounded, but I consider that fifty of our cases which were forwarded to the Val de Grâce, ought doubtless to be added to the list of our successful cases.

The point to which I wish particularly to draw the attention of the Academy is the treatment of fractures of the thigh from gun-shot wounds.

It is the generally received opinion that fractures of the thigh from gun-shot wounds demand amputation. The reception of this opinion is especially due to military surgeons.

On inquiring into the annals of military surgery, we find, first, that Ravaton, having lost all the wounded under his care with fracture of the thigh, was led to propose the disarticulation of the thigh, *to endeavour*, he said, *to save* the wounded from inevitable death. But Ravaton preferred to await the result for all other members; and even for fractures at the neck of the humerus, after having followed the practice then adopted of disarticulating at the shoulder in all cases, he renounced it, and only had recourse to amputation in case of evident necessity.

Larrey, less rigorous than Ravaton, thought we might yet preserve the thigh when the ball has broken the thigh by a simple fracture in inferior fourth or third of the bone; but, according to him, every fracture from gun-shot wound at the middle or upper portion of the bone demands immediate amputation.

Ribes, in a special memoir, confirms Larrey's view as to the fractures of the middle third of the femur; he even goes further, and says, that when the fracture is at the upper part, it is almost as if it had happened to the middle of the bone. *He then adds, that fractures at the extremities of the bone are almost as grave as at the middle.* Further on, he places fractures of the lower half of the bones of the leg among the most dangerous class, for which one may retard but not prevent bad results. He finally ends with a still more sweeping conclusion: he declares that one may often, without risk to the life of the wounded, attempt to save the arm, however severe may be the wound, but that, in "fracas" to the bones of lower extremities, produced by gun-shot wounds, the least delay in amputation will almost always compromise the life of the wounded.

The author leaves no doubt, in the course of his memoir, that this "fracas" appears to him inseparable from fracture; he even mentions, as it were to illustrate his ideas, two of the wounded having fractures of the thigh, who, having been struck from a distance, appeared to him to have simple fractures, and who even died more quickly than the rest.

I have myself professed this opinion, and I have put it in practice in a large field of battle, but the result was far from answering my expectations, as, in the campaign of Poland, I lost all my cases of amputation who had had fractures of the thigh from gun-shot wounds.

On re-reading the memoir of Ribes, I was struck for the first time with an important fact, which he relates with remarkable impartiality. He says, of 4000 invalids, I have not found a single case of fracture of the thigh from gun-shot wound—a proof, to him, that all those thus wounded must have died. But among the 4000 invalids, he has not found a single case in which the thigh had been amputated—a proof to me, that all those who had suffered amputation, died, and that amputation offers no better chance of life than non-amputation.

But in studying the question with additional details, I soon saw that it was not only as to amputation of the thigh that serious doubts may arise, but also as to all amputations practised after gun-shot wounds: we may say that this question of immediate amputation is the surgical question of the age. Already, in the ancient Royal Academy of Surgery, it was the object of a long discussion, and Boucher said, that after accurate observation, about two-thirds of those amputated, died, especially where the leg was amputated.

After the battle of Fontenoy, Faure ascertained that the success resulting from about 300 amputations was reduced to 30 or 40.

Bilguer says, that in the war of the seven years, among a crowd of persons on whom amputation had been performed, scarcely were one or two saved.

Here are more recent statements, altogether opposed to the preceding. Fercoq, who is scarcely known but for this remark, says, that of 60 amputations, there were only 2 deaths, or 1 in 30. Percy has been a little less successful; of 92 amputations of the leg, thigh, and arm, he had but 6 deaths, or 1 in 15. Guthrie, at New Orleans, had 45 amputations and 7 deaths, or 1 in 7; at the battle of Toulouse, 47 amputations, 9 deaths, or 1 in 5. In the English Army, during the Spanish Campaign, there were 291 amputations, 24 deaths, or 1 in 8.

Del. Signore, at Navasin, 31 immediate amputations, 1 death, or 1 in 30.

English surgeons, at the battles of Aboukir and Camperdown, 30 immediate amputations, 30 successful cases ! ! !

Larrey, during the days of the 27th and 29th Brumaire, 13 immediate amputations, 2 deaths, or 1 in 6. Larrey, reviewing all his cases, after 30 years of war, estimates that three-fourths of his amputations were saved. But Alexander Blandin, his aide-major, in a well-prepared memoir, says, that with judicious care, of 5 amputations, we may hope to save three—that is to say, three-fifths.

These documents are very contradictory, and seem to oppose the opinion of Boucher. Had Boucher badly seen or badly appreciated? One method remained for me; it was to inquire what passed in the Parisian hospital, in a situation doubtless much better than on a field of battle, and where our surgeons yield to no one in ability and knowledge.

I have then made an exact extract of all the amputations practised in Paris for traumatic lesions during a period of ten years, from 1836 to 1846. Here is the extract, which is of great interest.

I have found 165 amputations for wounds among men, and 17 among women. The mortality has been 107 among the men, and 10 among the women—nearly two thirds.

Of these amputations, among men—

	Amputations.	Deaths.	
Thigh .	44	34	morethan three-fourths
Leg .	67	42	nearly two-thirds
Foot .	8	5	more than half
Shoulder	7	7	
Arm .	29	17	nearly two-thirds
Forearm	10	2	one-fifth

Thus you see that the leg and the arm represent the average of the mortality; this mortality attains its maximum for amputation of the thigh, and its minimum for that of the fore arm.

Thus, we see that in Paris, in the best appointed hospitals possible, with the best surgeons in the world, the opinion of Boucher is confirmed, that primary amputations, in mass, are followed by a mortality of two-thirds.

Certainly, these results are unexpected, and they ought, it appears to me, to throw doubt on the reported success!

In limiting the question still more to the results of amputation or non-amputation for fractures of thigh and leg, I find another illustrative document not less precious.

In 1830, Dupuytren, after deducting double fractures, fractures of the knee and of the hip-joint, and immediate deaths, treated, at the Hôtel-Dieu, 13 fractures of the femur, for which he did not amputate: 5 were cured, and 7 died; another he amputated at a later stage, and he died.

For fractures of the knee or the leg he performed 5 primary amputations of the thigh, of which cases 3 died; and he performed 4 secondary amputations of the thigh, all of which cases died.

For the other fractures of the leg, the following table shews the results in Dupuytren's cases where he did not amputate :—

14 fractures of the leg—6 cured, 8 died.
2 ,, ,, tibia—1 ,, 1 ,,
2 ,, ,, fibula—1 ,, 1 ,,

Dupuytren performed immediate amputation of the leg in two cases, and both died.

These exact statistics prove that the opinion of military men as to the advantageous results of immediate amputation, either in general or for fractures of the thigh, does not rest on solid grounds.

We arrive, then, at this conclusion—that, in seeking to save the limbs of the wounded, we do not expose them to a greater risk of death than in amputating them.

From all these considerations, I have modified completely my opinion as to the value of immediate amputation, and I have consequently changed my mode of practice since the campaign of Poland.

The events of June have furnished me with a sad opportunity to verify for myself the accuracy of my new opinions; and I place before the Academy the results which I have obtained at St. Louis, where I received a great number of the wounded.

There are cases about which all discussion as to amputation is impossible. Where the knee or hip-joint are shattered by a gunshot wound, amputation is imperative. After deducting such cases, the followng table shews the results of my treatment of cases of fracture in which I have not amputated:—

5 fractures of the thigh.	2 cured.	2 dead.	1 amputated secondarily in great danger.
6 ,, ,, leg.	2 going on well.	4 dead.	
2 ,, ,, tibia.	2 ,, ,,		
4 ,, ,, fibula.	2 ,, ,,	2 dead.	
3 ,, ,, arm.	1 cured.	2 dead.	
5 ,, ,, forearm.	5 cured.		
2 ,, metacarpus.	1 going on well.	1 dead.	
27—total.	15 cured.	11 dead.	1 amputation secondarily, who is in great danger.

I have only practised primary amputation once; and I am almost ashamed to own, after the energetic attack of M. Roux, that it was an amputation of the elbow-joint. But what atones a little for my error is this—that the patient is cured. I own I do not understand M. Roux's objections to this operation, which I find to be thoroughly surgical.

Thus, of the 17 fractures of the thigh and leg which I have treated without amputation, 8 have been almost completely cured. Dupuytren obtained 13 cures out of 31 cases. Thus my results are more consoling than those which M. Bouchez attributes with reason to immediate amputation, cases of which two-thirds perish.

The following results were obtained by my colleague, M. Gosselin, in the same hospital, in fractures for which he no longer practises amputation:—

3 fractures of the thigh.	1 gives hope.	2 dead.	
3 ,, ,, leg.	1 uncertain.	2 dead.	
4 ,, ,, ankle-joint.	1 nearly well.	1 dead.	2 secondarily amputated.
2 ,, ,, shoulder-joint.	2 well.		
2 ,, ,, arm.	2 well.		
3 ,, ,, elbow-joint.	1 uncertain.		2 secondary amputation—dead.
8 ,, ,, forearm.	8 well.		
25—total.	16 successful cases.		

The following is the proportion in which death has seized the insurgents and the military:—

Among the 17 fractures of the thigh and leg treated by me—
5 were insurgents. 4 died. 1 cured (fracture of the thigh).
12 ,, soldiers. 4 died. 7 going on well. 1 amputated—alive.

This great mortality among the insurgents is certainly due to the depression following their defeat; but it has been in part also caused, I ought to say, by the want of precautions adopted in interrogating these unfortunate people, which has been done without consulting the heads of the surgical staff!

These general results are encouraging. They are due, in the first place, to this, that the wounded in our insurrections are placed in better circumstances—transport more prompt, care more immediate; but they are also, I ought to say, due to the treatment.

I abstain, as much as possible, from openings and incisions. I only apply the most simple apparatus, necessitating for its change no movement of the limb.

In addition, I make the patients eat. As soon as they feel hungry they are supplied with food. I scarcely ever bleed them, and there must be very pressing symptoms indeed that would induce me to make any kind of bloody evacuation. My present opinions on this point are not what I formerly held. Pupil at the Val-de-Grâce—pupil of Broussais, of whom I had the honour to be "chef de clinique," I was long preoccupied and oppressed with the idea of inflammation—of gastritis—and I acted accordingly. But I saw the deplorable results of a severe diet and emissions of blood. A document, emanating from the administration of Hospitals of Paris, which it is much to be regretted has not been published, throws light upon this question. It is the table of mortality among the wounded of different nations received, in 1814, into the hospitals of Paris, a table in which the regimen of the wounded is stated.

In this table figure French, Prussians, Austrians, and Russians: the wounded of the first class were submitted to a severe system of diet; the Russians, on the contrary, were rarely submitted to a single bouillon, more rarely to low diet; the less severely wounded had a full diet, and the rest middle diet: and in addition they had wine and brandy.

The mortality was—for the

French soldiers . .	1 in 7
Prussian ,, . .	1 in 9
Austrian ,, . .	1 in 11
Russian ,, . .	1 in 27

This enormous difference is sufficiently eloquent. It sufficed to modify altogether my practise with regard to regimen, and my results are not unfavourable. Although I do not give the wounded brandy, yet I give them a certain quantity of wine, and unless there is an immediate counter indication, I give them food if they are hungry; and the results prove that this is the right course to pursue.

I have yet other matters to bring forward, but I defer them until a future occasion.—(*L'Union Medicale.*)

MM. Roux and Malgaigne are each of them the extreme advocates of an opposite line of treatment, M. Roux advocating in almost all cases primary amputation, M. Malgaigne altogether opposing it; and, on the contrary, attempting to save all fractures, even of the thigh, not implicating the joints; for in such cases even M. Malgaigne would immediately amputate. M. Velpeau, who is now an advocate of immediate amputation, in most cases of gun-shot fractures of the thigh, attempted, in 1830, to save eight or nine complicated gun-shot wounds of the thigh; of these he only saved two, three others recovered after secondary amputation, and the rest died.—(*Lancet.*)

Larrey, under precisely analogous circumstances, lost one in seven; Mr. Wasdell (not Mr. Guthrie, as M. Malgaigne erroneously reports), lost one in seven, after the affair at New Orleans; and Mr. Guthrie one in five, after the battle at Toulouse.

It may be here stated, that after the New Orleans engagement, Mr. Wasdell lost five out of seven of his secondary amputations, and that from June to December, 1813, the British Army in Spain lost 19 out of 128 amputations of the lower extremity, performed on the field (about 1 in 6¾;) and 149 in 255 performed in hospital (about 3 in 5.) One is tempted to throw out of sight the 30 successful cases out of 30 amputated by the English surgeons after Aboukir and Camfardomia, quoted by M. Malgaigne, as he does not give his authority; and Mr. S. Cooper, in his Dictionary, only quotes from Larrey with regard to Aboukir the evidence of a French surgeon, M. Masclet, that of 11 primary amputations all were recovering, while of their secondary amputations all died.

In the British Legion (Spain,) Mr. Alcock reports, that in the Military Hospital,

May to December, 1836.

Primary Amputations . .	16—died 5
Secondary Amputations .	33—died 8

January to June, 1837.

Primary Amputations . .	25—died 16
Secondary Amputation .	33—died 23

It is interesting to note, how in the same hospitals the mortality (always rather in favour of secondary amputation) rose, from 1 in 3 in the earlier months, to 3 in 5 in the latter.

Epidemic sickness, and the state of the hospital, will derange all comparative returns.

An interesting illustration of the difficulty of establishing accurate averages of results is given by Mr. Alcock, who lost but 1 out of the first 16 amputations, primary and secondary; while out of the next 8 amputations he only saved 1.

The English surgeon cannot but be surprised at the one-sided and opposite systems of treatment adopted by different eminent French surgeons.

M. Malgaigne's observations with regard to the successful result among the well fed, highly stimulated Russian patients, are an extreme but interesting illustration of the soundness of the present English practice. In such cases a nutritious diet is usually given at an early period, and under copious discharges the system is well and repeatedly propped with food and stimulants. Indeed, the majority of these cases may, even when in extreme danger, terminate favourably by such means.

The writer has in eye many serious cases received into a large hospital, saved by this treatment, after being almost in a state of collapse.

One important remedial means of stimulating the system is opium, often as effective in allaying irritability and excitability, and rousing from collapse, as it is under similar circumstances in delirium tremens. M. Velpeau gives opium occasionally to produce sleep, but he does not seem to be aware of its power as a stimulant, of which power the great Sydenham says, "præstantissemum sit remedium cardiacum (*unicum* pene dixerim) quod in rerum natura hactenus est repertum;" so that he would not only make it the chief, but almost the only true cardiac stimulant.

MM. Roux and Malgaigne do not state whether they used chloroform during the operations which they performed on the wounded. M. Velpeau did not use chloroform in his cases in February, because he says that agent evidently depresses the nervous system; and as great prostration always exists in patients who have recovered from gun-shot wounds, it is advisable to refrain from any anæsthetic agent.

Considering that this was the impression and practice of M. Velpeau in February, it is rather singular that he did not allude to this opinion when he supported the use of chloroform so indiscriminately during the discussion on the case of death from chloroform at Boulogne. Z

Correspondence.

THE MEDICAL PROTECTION SOCIETY AND ITS OPPONENTS.

SIR,—It has long appeared to me very desirable, for the advantage of medical men, to establish a Society whose special business should embrace all those interests of the profession which are separate from its art and science. The extensive part of such an undertaking, placed on a sound footing, which would collect many of the debts due to members, should not be held in low estimation.

No class of men do so much work for *nothing*, or find so many bad debts where they had expected to receive a just requital, as "general practitioners." No class of gentlemen, having toiled through life, leave their widows and children more destitute.

It was a saying of the late Mr. Burton Brown's, who made a creditable fortune by practice,—always carried an abstract of his ledger in his pocket or carriage,—gained and retained the confidence and regard of his patients,—was raised to the bench of magistrates, &c. &c.—"We do not blend enough the mercantile with the professional."

In early life, decoyed by "the bubble reputation," earnest in the pursuit of knowledge and learning—enamoured, too, with the high usefulness and dignity of art and science,—all except the grovelling are apt to value below par mere matters of pounds and pence. Yet how many, neglecting the mercantile, have rashly made shipwreck of "honour, happiness, and fair renown," each of which might have been secured, had more pains been taken to reap the honest earnings for professional skill and labour.

On my receiving the first address and prospectus of the "Medical Protection Society," these feelings were strongly reawoke; and I now feel it a duty to address my professional brethren through the kingdom, respecting this Office, lately opened, and advanced with considerable claim to public notice and confidence.

It is true, sir, that "good wine needs no bush;" yet, as a traveller, I have found it well to gain information of those who have gone the road: and a wrinkle, or a word of counsel from an observant fellow-passenger, has often had more influence in leading to comfortable quarters, than the puffs of a "*touter*," or the loud voice of a *rival*, greedy of gain, or fearful of loss.

Approving of the outline of the "new project," I looked with interest to see names associated with it which might give a confidence to the public beyond the consequence inseparable from the scope and utility of the plan. I found this in *Mr. Propert* and others, and became a subscriber. The subsequent movement taken by the Office, relating to the position of the Union surgeons (more zealous, perhaps, than discreet, as the subject was already under the care of the Hanover Square Convention, who are in communication with the President of the Poor-Law Board, and the Home Office), furnished at least a fresh point of interest to me, which was rather increased than lessened by the cowardice of an anonymous letter to Mr. Propert, disparaging the "new project." On many accounts it is to be wished that the venerable Mr. Pennington had not hesitated, on account of his advanced life, to be the co-trustee with Mr. Propert. New names must be sought, that the Trustees and Committee, as a body, may be strong in numbers, and beyond suspicion.

Brave men, with good intentions, satisfied of the practicability and usefulness of an object, are neither ashamed nor surprised to stand alone for a time in advocating a beneficial, though novel, measure. "Fair weather birds" cautiously keep aloof till a degree of success have crowned the undertaking, and then sometimes they encumber it with help, unless through supineness or timidity they have allowed the golden opportunity of doing good to pass, and the plan fail through lack of timely succour.

There can be no doubt of the importance of aiming to suppress all illegal practice. Many gross quackeries, such as Patent Medicines, are unhappily sanctioned "by law." Yet those who issue, puff, or vend these articles, are, in my eye, "honest knaves," compared with the impudent, pretending, unqualified practitioners, who, sailing under false colours, laugh at the profession, which they insult—at the public, which they deceive and injure—and at the law, which they outrage with impunity. Prosecutions against these defaulters are too expensive or troublesome for individuals to undertake. Though the cost and process are now reduced, and made more summary, the Apothecaries' Company *does not act*: hence this branch of the Medical Protection Office may be particularly useful and consolatory to the injured feelings of those gentlemen who live under the conviction that they suffer—*suffer unjustly*—through the neglect of the company authorised by Parliament to defend them.

The mode in which the few business transactions in which the office has acted for me has been conducted, has impressed me favourably regarding the address, vigilance, and even courteous delicacy, with which the interests of medical men are there treated. This fact must be of vital importance to the social feelings, as well as the "status," of those gentlemen, who are more or less pained to press for money, being familiar, generally, with the domestic and pecuniary affairs of their patients: many of whom, however, are often deficient in gratitude and moral principle, more than even in *money* itself.

The highest *abstract* excellence, the formation and distribution of the benovelent fund, at which the Office aims, may be the most difficult to attain to. The profession must be prosperous, confiding, disinterested in an eminent degree, before this can thrive. The existence of a similar fund attached to the Provincial Medical and Surgical Association (adorned by Mr. Newman, its treasurer and secretary) need not hamper its operations, nor lead to rival interest. The field is capacious enough—the metropolitan one is particularly unoccupied. While wants are wide spread, the assuagement should be equally so. In matters of diffusive benevolence, two parties, like twin brothers, may live side by side, "prospering and to prosper."

As an agency establishment in all its multifarious ramifications, this Office appears qualified to take a high position: the boldness of its designs; the magnitude of its operations; and the character of even its subordinate officers, with whom I have come in contact, speak much in behalf of the judgment, liberality, and enterprise, shewn by the originators of the scheme.

But, sir, I have nearly fallen into the error of puffing an institution to the objects or principles of which I mainly wish to draw attention, being chiefly solicitous for the plan of *co-operative efforts*, on which some such society should be based. The one in question promises to accomplish much by this, and I cannot doubt its meeting with much concurrence and ultimate success, if it continue to embody in its operations the spirit of the motto, "faites bien, et laissez dire:" should this be departed from, I must feel it right again to intrude upon your columns.

I remain, sir,
Your obedient servant,
Charles F. J. Lord.
Hampstead, September 5, 1848.

*** It is worthy of remark, as an indication highly favourable to the new project, that they who support it do not hesitate to attach their names to their communications, while those who are opposed to it are afraid to announce themselves openly. Their attacks are anonymous and personal, and are quite opposed to the English system of "fair play." We at present know nothing of this Society or its objects; but considering that some highly respectable names are publicly attached to it, and that its opponents confine themselves to vague insinuations, and take care so to conceal their names that the value of their testimony cannot be estimated, we are inclined to augur most favourably of the Medical Protection Society. The best project for the relief of medical grievances will always find secret opponents.

ON THE PERIODICAL ANNOUNCEMENT OF SUBJECTS FOR PRIZE ESSAYS IN THE MEDICAL JOURNALS.

Sir,—May I suggest, through the medium of your journal, that once a year, or more, (say in October,) a list of prizes offered by the different societies, and the titles of the proposed subjects, should be published. I believe many who see the announcement of subjects for prize essays, months after they were first announced, are thus prevented from entering the ranks as competitors. It is true, the subjects are always "advertised," but an occasional published list of them would be useful. If the Medical Directory is again published, it would be the best means of making it generally known.

I remain, sir,
Your obedient servant,
C. S.
September 6th, 1848.

*** This is a reasonable suggestion. Our columns will always be open to any communications respecting Medical Prize Essays.

Medical Intelligence.

REPORTED IMPORTATION OF CHOLERA.

A report had been circulated through Greenock that two persons had died of cholera on board of the brig Reliance, which had just arrived from Cronstadt, the port of St. Petersburgh. According to the Scotch papers, a considerable degree of uneasiness has been the consequence, but, as the affair has been greatly exaggerated, no apprehension whatever need be felt. There was one case of cholera, of a most malignant character, on board the Reliance, which took place about 17 days before she arrived in the Clyde, and so rapid was the progress of the disease that the unfortunate subject expired after two hours' illness. On the vessel's arrival here there was one case of sickness on board, and the tide-surveyor, who examined the vessel, immediately sent for a medical man, when it appeared that the patient had merely a facial disease—something like erysipelas. He was at once taken to the infirmary, and the vessel was relieved from quarantine. The order of the Board of Customs to the tide-officers, dated the 15th of June last, is to the effect that any vessel which may have had a case of cholera on board, but not within ten days prior to her arrival, and none of whose crew may have within that period exhibited symptoms of the malady, shall be relieved from quarantine.

The Glasgow Examiner of Sept. 9th, announces that another death from cholera has occurred on board a Montrose vessel lying at Riga—the schooner Helen. The victim in this case was a brother of the master, Flockart, and he has left a widow and seven young children.

⁂ We by no means object to the rule adopted by the Board of Customs: on the contrary, we think it consistent with common prudence; but how is such a rule reconcilable with the statements recently made in Parliament by Lord Lansdowne and other ministers? In what way can it be reconciled with the reports of the Metropolitan Sanitary Commission? The Commissioners say—"*The non-transmissibility of cholera in any manner whatsoever appears to us to be a demonstrated fact.*"* Either this is true or false. If true, it is evident that the Board of Customs is not justified in making any restrictions whatever on the admission of vessels in which fatal cases of cholera have appeared, even although the date of attack may have been on the day of arrival. If false, as this order to the Board of Customs appears to imply, the sooner it is retracted and disavowed the better. Epidemics which possess no contagious or infectious characters do not traverse seas in sailing vessels!

PROGRESS OF THE CHOLERA ON THE CONTINENT.

We bring on our intelligence of the progress of the cholera, from the most authentic sources, up to the latest dates received.

St. Petersburgh.—On the 24th August (12th O. S.) there were 25 new cases, and 16 deaths: 482 persons were affected with the disease. 25th.—The number of patients under treatment had diminished to 448, and on the 22d of August to 396. The numbers attacked were daily becoming diminished.

Berlin, August 22d.—The number of patients attacked with cholera was 104; deaths, 74; recoveries, 12. On the 23d, the number of new cases was 24. On the 26th there were 167 patients labouring under cholera—108 deaths, and 19 recoveries.

28th.—The new cases were 96. In one house in the Blumenstrasse, no less than fifteen persons died from cholera. The number of patients is not great compared with the population, but the attack is almost always mortal.

Sept. 1.—The latest intelligence to this date announces that 377 persons were affected with the disease. The deaths were 305, and the recoveries only 33.

Warsaw, August 26th.—The number of cases of Asiatic cholera was 27: there were 5 recoveries, and 12 deaths.

These reports tend to confirm the general belief that this terrible disease is slowly but surely extending its progress westward. This progressive advance from town to town and city to city in the great lines of human intercourse, is, in our opinion, quite inconsistent with a purely epidemic character. Thus we cannot be surprised at the Government of almost every country attempting to enforce quarantine restrictions. Experience has shewn that these have not in all cases succeeded in excluding the malady; but this is no reason why we should freely admit into our ports vessels on board of which patients have recently died of cholera. *Salus populi suprema lex;* and even if it be a mistake, it is a mistake on the right side.

Gallicia.—Letters from the frontiers of Gallicia state that the cholera has appeared with such violence in the Government of Lublin, in Poland, that in the small town of Krasnystaw alone more than 400 persons died. The malady declared itself after the arrival of some regiments of Cossacks, of whom a considerable number were the first victims.

At *Moscow*, it was reported that the cholera was much abated. On the 17th and 18th ult. 58 new cases had appeared, and 24 deaths. There remained 379 cases under cure. At Riga 220 new cases were declared between the 19th and 22d ult., and 68 deaths. At Helsingfors, the capital of the Grand Duchy of Finland, the cholera had attacked 48 persons, of whom 27 had died.

THE CHOLERA AT CONSTANTINOPLE AND IN GREECE.

The latest accounts of the cholera at Constantinople, show that it was sensibly declining. At Trebizond, the disease had also greatly declined. At Smyrna it was raging with violence, and for some time had carried off 50 or 60 victims a day. More than 30,000 persons had quitted the city, which presented a most desolate appearance. The breaking out of the disease had interfered with business to such an extent, that there was an almost total suspension of trade at a period when it was usually most active. The bazaars were closed, and numbers of families were leaving the city, in order to avoid the risk of contagion. At Salonica and Aleppo, the disease was raging with violence. Letters recently received at Lloyd's from Salonica, state that the cholera had made its appearance, and had created such alarm, that the town was nearly deserted, and the bazaars were all closed. Among the dismayed fugitives, were many of the local medical profession, who chose to retire from the scene of practice rather than encounter the virulence of the disease. In Greece, in consequence of its approach, the lazaret of Skiathos had been closed till new orders, and that of Spezzia closed against all arrivals from infected places. The disease, however, had broken out at Skiathos, and carried off 21 persons. The Government and sanitary committee of Athens had ordered measures to be taken to prevent the spread of the frightful malady.

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* See our last volume, p. 1085.

DEATHS FROM CHOLERA IN EGYPT.

SINCE the first outbreak of the Asiatic cholera at Cairo, on the 16th of July, the deaths

from the disease have been	6641
In Alexandria (from July 26) . .	4032
In Tanlah (from 12 to 26 July) .	1800
In the rural districts	7000
Total deaths	19473

The disease is reported to have become considerably abated in the virulence of its attacks.

THE IMPORTANCE OF CORONERS' INQUESTS —THE ESSEX POISONINGS.

To the Editor of the Times.

SIR,—The powerful and important leading article in your journal of the 1st inst. on the subject of poisonings, induces me to trouble you with the following statement of facts, tending to show that the increase of the crime may be in a great measure attributed to the want of what you aptly term "the certainty of detection" which ought to follow every case of that nature, but which is not effected in many instances from the impediments *improperly thrown in the way of holding inquests in some districts.*

In the county of Devon the justices came to a determination not to allow the fees for holding any inquest where a verdict of natural death was returned, and they communicated that determination to the constables and the parish officers; and the result was, that many cases which ought to be inquired into were not reported to the coroners.

In 1846 the cases of poisoning in Norfolk were brought to light after a lapse of 12 months. In that county the magistrates had sent a circular to the parish officers, endeavouring to limit the holding of inquests, by preventing information being given to the coroners in certain cases; the effect of which was, that the numerous deaths from poison which had occurred were not inquired into for a year after they had taken place. On the inquest being held, the foreman said, "The jury wished it to be understood that in their opinion *inquests were not held so frequently as they ought to be, in cases of sudden death.* It often happened that parish officers, in consequence of written instructions furnished them, were unwilling to send for the coroner, and that in many cases of great importance, but attempted to investigate the matter themselves. They all wished to keep down the county expenses, but not at a sacrifice of human life, and he trusted that that wholesale case of poisoning would operate as a caution to parishes generally as to the necessity of a coroner's investigation where the least suspicion was attached."

Sir J. Graham, the then Secretary of State, when speaking on the subject in the House of Commons on the 12th of June, 1846, took occasion to remark upon the infrequency of coroners' inquests in many parts of the country. He said—"There was reason to believe that in the county of Norfolk no fewer than 20 persons had died from poison administered by one individual, and in none of those cases had an inquest been held. The law was, that any person having reason to believe that a death had occurred under suspicious circumstances, was entitled to call upon the coroner of the district to hold an inquest. Within the last few years, however, an indisposition had arisen to pay the charges connected with coroners' inquests, and the consequence had been that inquests had not been held in many cases where, according to the law of the country, they ought to have been held. The magistrates of the county of Devon had even gone the length of coming to a resolution not to pay the costs of any coroner's inquest where the verdict was 'died by the visitation of God.' This resolution had had a most injurious effect in preventing inquests in many cases where they ought to have been held."

In the county of Essex, in the same year, cases were discovered of poisonings which had occurred a year and a half previous, and in which no investigation before the coroners had taken place.

In Shropshire an inquest was held in October, 1846, on the body of a child who died in the May previous; and though the circumstances attending the death were very suspicious, the length of time which had elapsed prevented a satisfactory result.

In September, 1846, in the same county, a child, which had been strangled by its mother, was registered as having "died in a fit;" but the body being afterwards exhumed and the case investigated, a verdict of "Wilful murder" was returned against her.

In October, 1846, some of the town council of the extensive borough of Manchester found fault with the Crown for holding 89 inquests in four months; but the Registrar-General in his report, published at that time, says, that in Manchester no less that "13,362 children perished in seven years, over and above the mortality natural to mankind."

At the summer assizes in 1847 several persons were tried for committing murder in order to obtain the burial money from a benefit society; and in January, 1848, an inquest was held in the county of Monmouth on the body of a man who had been buried in the November previous, which ended in the widow and servant of the deceased being charged with having poisoned him, it being discovered on the *post-mortem* examination that he had died from arsenic, and the evidence pointing them out as the persons who had administered it.

In the county of Stafford the Finance Committee of Justices have in the present year recommended the disallowance of more than 100 inquests, many of which were cases of burns and scalds, and others suspicious of poison. Is it, then, to be wondered at, if inquiries are stifled and prevented, that murders will go undiscovered? *It is the certainty of investigation that operates as the preventive to crime, and nothing tends so much to the encouragement of crime as the course adopted in some counties of discouraging those investigations*; and it might as well be resolved that every prosecution should be condemned which ends in an acquittal, and no costs allowed therein, as to say that no expense of holding a coroner's inquest should be allowed because the verdict happens to be "Natural death."

I cannot conclude this letter without an extract from a leading article in *The Times* of the 22d of June, 1846, on the subject of the poisonings in Norfolk:—

"It appears that coroners' inquests are looked upon as expensive burdens on the county, to be alleviated by all practical methods, and a circular was actually sent to the village of Happisburgh, amongst others, to inculcate the necessary economy. We trust that the frightful result of this flagitious and illegal parsimony will be a warning to the whole kingdom. Had an inquiry been instituted at the first death there is little doubt, even if detection had not ensued, that numberless lives would have been spared, and this atrocious career of guilt cut short."

Look at the poisonings in Essex now under investigation, and say how has this advice been followed?

I am, Sir, your obedient servant,
William Payne.

London, Sept. 4.

⁂ The italics in this and the subjoined letter, excepting in the last paragraph but one, are our own.

DEFECTIVE CORONERS' INQUESTS.

To the Editor of the Provincial Medical and Surgical Journal.

Sir,—I shall be glad if you will insert the following cases in the *Provincial Journal*.

Your obedient servant,
Augustin Prichard.

Bristol, August 28, 1848.

An old gentleman called upon me some time ago labouring under *bronchitis senilis*, to such an extent, that after prescribing for him, I felt much relieved when he was placed in a fly, and taken back to his hotel. The next morning he was found dead in his bed by the porter who had been directed to awake him. An inquest was held, and the porter who found him was called upon to give evidence, as was also a neighbouring medical man, who had been called in, in the hurry of the moment, when the gentleman was discovered to be dead, and who, without having seen him during life,—*without any post-mortem examination*, and in thorough recklessness of all medical etiquette,—helped the jury to arrive at the conclusion that Mr. Prichard had ordered the patient some pills and drops for his cough, and *that he was found dead in his bed.*

A few days ago I was called about six A.M., to see a child, which was said to be very ill. The child was dead, and its body nearly cold. From what I could learn by inquiries, I suspected that it had been overlain. An inquest was held, *and the jury having looked at the body, determined that the child had died in a fit!* In both cases I had left word that I was ready to attend if it was deemed requisite, thinking, of course, that in both, but more especially the latter, *an examination of the body was indispensable.*

Some years ago, a surgeon of this city died rather suddenly, after a month's confinement to bed, from an accident. The coroner insisted upon an inquest, and took occasion to express his opinion of the great *importance of coroners' inquests*. The two cases which I have just adduced authorize us to conclude, that by these words he merely meant to express, in an abbreviated form, the *importance to the coroner of his receiving his fees for the inquests*; for it was a mere form, no cause of death was discovered in either instance, and any real value of an inquiry of this nature was completely nullified.

There may possibly be some remote advantage in publishing such abuses in medical journals; but it is only to avoid the charge of bringing myself unnecessarily, and in an unprofessional way, before the public, that I do not send these remarks to one of our local papers.

DR. REID'S PLAN OF EXTINGUISHING FIRES ON BOARD OF VESSELS AT SEA, BY MEANS OF CARBONIC ACID GAS.

Dr. Reid, who is well known for his researches on ventilation, has recently suggested a singular chemical process for the extinction of fire on board of sailing vessels. The recent destruction of the Ocean Monarch, off the English coast, appears to have led him to direct his attention to the subject. His process consists in producing suddenly in that part of the vessel where the fire happens to break out, a large quantity of carbonic acid gas, relying upon the well-known effect of this gas in extinguishing lighted candles, when it is in a proportion exceeding twenty or twenty five per cent. of the volume of air. For the production of carbonic acid, he recommends chalk and diluted sulphuric acid, which might be conveyed by a moveable hose (made of gutta percha) from a cistern containing it, to the spot where the chalk is thrown. The cost of material for a ship of 1000 tons would not exceed fifteen or twenty pounds, and the expense of laying the tubes, &c., will not exceed thirty or forty pounds. As the result of experiments which he has made, he finds that from five tons of chalk, as much carbonic acid may be obtained as will fill a vessel of 1000 tons burthen.

We have some doubt how far this plan is likely to become available in practice. The rapidity with which a fire spreads, in a space in which everything around is highly combustible, and the difficulty of approaching near enough to adjust the contact of the chalk and diluted sulphuric acid, must to a certain extent interfere with its application. Then we have to consider, that with a small quantity of carbonic acid, subjected to rarefaction by intense heat, and liable to be dispersed by strong currents of air, we cannot put out a fire; and with a large quantity of carbonic acid, *i. e.* enough to fill a vessel of 1000 tons burthen we might extinguish the lives of the crew, and thus put an end to the necessity for the operation.

PROFESSOR MULDER'S CHEMICAL COUNTERBLAST AGAINST THE POTATO, AS AN ARTICLE OF DIET.

In a work recently published, Mulder, the learned Professor of Utrecht, has put forth a counterblast against the potato. As an article of diet, he regards it as innutritious, and contends that it is the cause of the moral and physical degeneration of those nations which use it as food! He admits that life may be supported on potatoes alone; but it is not an elastic or healthy life! In fact, the potato fills the stomach with a mass of provender, from which but little healthy nutriment can be extracted. He contends that we shall never see the abuse of spirituous liquors got rid of until potatoes are abolished as a common article of food, on the principle that a certain amount of stimulus is indispensable, and that therefore the ignorant will have recourse to one that is destructive to them, so long as a salubrious excitement is denied.

All this is, chemically speaking, very ingenious; but we cannot agree in the inference. Potatoes, as an adjunct to animal food, are, we consider, highly serviceable to the support of the system; and we think a person would thrive upon such food much better than upon a concentrated essence of Mulder's favourite *protein*, or its compounds. It does not at all follow that substances holding but little nitrogen and sulphur are unadapted to the support of the system; nor is it to be admitted, that bodies which abound in these elements, are thereby fitted to sustain life in its maximum of integrity. Such wild inferences are the result of the ultra-chemical views which Liebig and Mulder are disposed to force on physiologists. Experience is against the first assumption; and if the second were true, *gutta percha, caoutchouc*, and *urea*, might take the place of beef, mutton, and pork, when these sources of food were deficient!

A CHEMICAL PROCESS OF EJECTMENT. ALLEGED POISONOUS EFFECTS OF PHOSPHURETTED HYDROGEN.

The following singular case was heard at the Bow-street Police Office, on Friday last:—

John Dolby, of No. 289, Strand, described as a "practical chemist," was charged before Mr. Jardine with having nearly suffocated the wife and children of Ebenezer Wild, his second-floor lodger, by wilfully exposing them to the noxious fumes of phosphuret of calcium in a state of decomposition.

The complainant stated that he is a wood-engraver, and, with his wife, an infant, and three other children, occupies the second floor of the defendant's house. On Wednesday afternoon he was sent for home, and on his arrival found that his wife and children had been taken suddenly ill, and were then scarcely able to support themselves, owing to a powerfully nauseous vapour emanating from the contents of a saucer which had been placed by the defendant's orders between his sitting-room and bed-room. The children were crying and clinging to their mother's dress, while the infant, about nine weeks old, appeared lifeless and cold. The preparation in the saucer had been ignited, and was still smoking; and, finding that a strong vapour still arose from it, he removed it to the coalbin, although scarcely able to do so from the effect which it had upon himself. On asking an explanation of the occurrence from the defendant, he said that he was determined to get them out of his house, and referred to a quarrel which had taken place between his wife and complainant's the same morning. He treated the matter with great levity; and when told that the child was dying, said merely that "it was not dead," and laughed. Complainant added that all his family were still suffering severely from the occurrence, and his wife had been so dangerously ill that he was obliged to send for a doctor that morning.

Mr. H. P. Davis, surgeon, of Clarendon-square, said that he was in the habit of attending the complainant's family, all of whom he left in good health about a week ago. He had seen Mrs. Wild and her children that morning, and found the former very unwell, although evidently suffering chiefly from the effects of great alarm. The children appeared slightly indisposed; but he was unable, so long after the occurrence, to trace their illness to the cause assigned, although such might be the effects of it. The infant seemed to be better than the other children.

Professor Miller, of King's College Hospital, proved that the saucer contained phosphuret of calcium, which, in a state of decomposition, would emit a very *noxious*, (offensive ?) although not an injurious gas, unless taken in great quantities.

The defendant said he would not mind taking two gallons of it. He persisted in the harmlessness of the vapour, which he had caused to be placed up-stairs to counteract a more offensive one.

As the complainant wished to take the case to the Sessions, the defendant was remanded, but liberated from custody on his own recognizances.

⁂ It must be admitted that Mr. Dolby has shown great ingenuity in attempting to get rid of troublesome tenants by a chemical process. While we cannot approve of his proceedings, it is very clear that the effects of the phosphuretted hydrogen, evolved when phosphuret of calcium is placed in water, have, in this case, been most absurdly exaggerated. The gas in a concentrated state is undoubtedly poisonous, owing to the phosphorus which it contains, but it possesses so powerful and offensive an odour (resembling that of stinking fish), in a much less than poisonous proportion when mixed with air, that no person, unless rendered insensible from other causes, could remain long enough to breathe a poisonous dose of the vapour. A few pieces of the phosphuret will thus evolve a gas which will render the air of a large apartment most offensive (but not strictly speaking noxious) to respire. It is impossible to suppose that the ingenious landlord contemplated the murder or manslaughter of his tenants by this chemical trick, or to refer the illness of the children to such a cause; nevertheless, his "practical chemistry" might be directed to better and more laudable objects.

THE UNIVERSITY AND ACADEMY OF SCIENCES OF BERLIN.

THE University of Berlin is the first in Germany, although the latest in point of establishment. Occupying three sides of a parallelogram, of which the free side opens upon the finest street in the capital, this immense edifice is situated in the centre of the town, surrounded by the Opera, the Royal Library, the Academy of Sciences, the palace of the Prince of Prussia, and the Arsenal. Of an imposing architecture, divided into two stages, containing under the same roof five large museums (the physical, mineralogical, zoological, surgical, and anatomical), thirty-three lecture rooms, various bureaux for the senate of the academical tribunal, and other purposes, and the great hall of ceremony, called the *Aula*, this building is a small town, where 2000 pupils receive instruction, conveyed by 170 different masters. There are three classes of teachers:—*Private tutors*, who, after being recognised, give private instruction, and seek to make themselves known by publication and teaching. Those who are most distinguished among them are promoted to the rank of *Extraordinary Professors*. These, by additional services, attain to a higher degree, under the title of *Ordinary Professors*, who receive complete emoluments, and become permanently established in the Faculty of Theology.

In the Faculty of	Ordinary professors.	Extra-ordinary professors.	Private.	Students.
Theology .	5	5	4	314
Law . .	9	3	5	767
Medicine .	13	10	15	294
Philosophy	33	31	32	700

345 courses of lectures were announced last year, of which 227 were private and paid, and 118 public and gratuitous. Of this number there were in medicine 50 private and paid courses, and 25 public and gratuitous. In the private course, from four to six lectures are delivered weekly; in the public, seldom less than two.

The Academy of Sciences, founded 110 years before the University, under the direction of Liebnitz (1700), is the principal learned society, comprising all the scientific men of the land. Such, at least, is its design. It is divided into two classes: the physico-mathematical class, comprising 29 members, and the philosophico-historical, containing 24: in the whole, there are 53 academicians. To the title is attached an annual pension of 300 dollars, and the necessity to furnish in turn a memoir at the monthly sittings of the Academy. Incke and Bœckh, the celebrated astronomer and the illustrious scholar, are the perpetual secretaries. The Academy (which holds a single public meeting in January) is under the protection of the King, and publishes annually in one volume a selection from the memoirs read at the meetings. The Academy is recruited almost entirely from the University. Of its 52 members, 30 are professors, and the greater part of the rest have been professors formerly.

Besides these learned bodies, there are numerous particular associations recognised by the State: among these there are twenty-five other scientific societies. — *L'Union Médicale.*

THE USE OF ÆTHEREAL SOLUTION OF PREPARED COTTON IN BURNS. BY J. CRAWFORD, M.D., LECTURER ON CLINICAL MEDICINE, M'GILL COLLEGE.

I OBSERVE in the last number of your journal, a short notice (taken from the *Boston Journal*) of a new remedy, as a surgical application to wounds, namely, an "æthereal solution of prepared cotton." I have lately had an opportunity of trying this remedy in the case of a severe burn, and had the pleasure of witnessing a most satisfactory result. I have to thank Dr. Payne, dentist, of this city, not only for the suggestion, but also for having afforded me the means of trying it on the occasion. My patient, a young gentleman residing in the same house with Dr. P., had, a few moments previously, received a severe burn of the face and hands, from the accidental inflaming of camphine, or some such allied fluid: after placing his hands in iced water, I was preparing cotton-wadding as the most convenient application for the face, when Dr. Payne mentioned to me that he had lately received from the United States a new remedy, which he had tried to an abrasion on his hand that day with immediate relief. The wound so treated appeared covered by a thin glazing or varnish, which perfectly excluded the atmospheric air—the principal desideratum in these cases. I at once adopted the suggestion, perceiving that it appeared to promise a very light and convenient covering, while the æther, during its evaporation, would be likely to afford a cooling application.

The solution was accordingly brushed lightly over the face, and a glazing was soon observed, and the painful sensation almost instantly subsided.

The want of a sufficient quantity of the fluid to cover the hands in like manner, prevented me treating them in the same way. It will be sufficient for my present object to state that nothing could be more satisfactory than the result of this application, and I know of none at all to be compared with it for convenience, as well as efficacy, in superficial burns of the face.—*Brit. Amer. Jour.*, August 1848.

DISTINCTION BETWEEN RIVER AND WELL WATER. BY DR. R. D. THOMSON.

THE purest water which occurs in a state of nature, is, as is well known, rain-water, since, in a great measure, it resembles distilled water; but even rain-water is not perfectly pure, because it may contain traces of substances soluble in water, which are found in the atmosphere, such as carbonic acid, nitrate of ammonia—the latter only during thunderstorms, and besides, both during summer and winter, when there is less diffusion of electricity in the atmosphere, it may contain, dissolved in it, ammonia, which is now known to pervade the atmosphere in the form of carbonate. It is thus obvious that even in the purest forms of waters, as they occur in nature, there is liability to impurity. The rain descending with these substances in solution to the earth, must convey these soluble bodies to the soil. The soil becomes thus, to a certain extent, contaminated by foreign matter from the atmosphere, by the instrumentality of the purest natural water. In taking into consideration, then, the source of the dissolved matters contained in less pure forms of water, it is necessary to keep in view this constantly operating cause of impurity. To such an extent does this cause produce an influence, that we find in all soils a certain amount of ammonia present, varying in quantity towards the surface, according as the soil is either close-bottomed or loose—thus showing that when there is less obstruction to its percolating downwards, it disappears from the surface, and penetrates to the lower strata. A portion at least of this ammonia is conceived to be derived from the atmosphere, and acts as food for plants.

Supposing, then, this water, charged with mere traces of impurity, should fall upon a scanty soil, overlying a hard and with difficulty decomposable rock, we should expect that this water would take up but a small amount of soluble matter, in consequence of the absence of any such substances in the soil upon which it fell. Hence it is that streams and rivers which rise among rocks of granite or slate, trap or greenstone, are exceedingly pure. It is thus we account for the superiority of the waters of the Highlands, and other elevated parts of Scotland. The waters of the Dee, for example, which are used for the supply of the city of Aberdeen, are perhaps the purest of any waters employed by an equally large community in this country.

From a knowledge also of the nature of the rocks with which waters come in contact, we can predicate the presence or absence of certain ingredients. For example, we should not expect the presence of potash in the waters derived from the neighbourhood of Glasgow, as the rocks themselves usually contain soda.

If rain-water were, instead of falling upon a hard rock, to be precipitated upon a soft and easily decomposable stratum, and filter downwards, we might expect that it would gradually dissolve a considerable quantity of soluble substances. If, again, the water were to descend upon a sandy or clay soil, having interspersed through its particles saline matter filtering in from various impure sources, it is obvious that the water would be rendered still more impure than in either of the previously supposed cases. This is rendered still more obvious in respect to wells, if we remember that the water found in them is originally derived from the atmosphere, and makes its way into wells by filtering through a considerable extent of soft matter, containing of course soluble substances imbedded.

The quantity of matter dissolved will depend in some measure upon the rapidity with which the water percolates, and the amount which passes through the strata; and hence we may expect that in rainy weather the solutions will be much more dilute, and that the constitution of the well waters may vary considerably at different seasons; just as we find that rivers contain much less solid matter in a given weight of these waters during rains than during the dry seasons of the year. In addition, however, to the matter contained in the rain water, which is derived from the atmosphere, there is a large amount of gaseous and saline matter derived from the rejected materials of living beings, which of course increases in proportion to the number of the inhabitants. A certain proportion of such substances will no doubt be evaporated into the atmosphere, but the greater part undoubtedly either will sink into the earth, or be carried into the common sewers, from which more or less of it cannot fail to filter into the surrounding porous and absorbent materials through which they are excavated.—*Journal of Public Health.*

Selections from Journals.

REPORT ON THE AIR AND WATER OF TOWNS. BY DR. SMITH.

It has long been believed that air and water have the most important influence on health; and superstitions have therefore constantly attached themselves to receptacles of the one and the emanations of the other. The town has always been found to differ from the country: this general feeling is a more decisive experiment than any that can be made in a laboratory. The author then proceeds to examine all the sources from which the air or the water can be contaminated. The various manufactures of large towns, the necessary conditions to which the inhabitants are subjected, and the deteriorating influences of man himself, are explained. If air be passed through water, a certain amount of the organic matter poured off from the lungs is to be detected in it. By continuing this experiment for three months, Dr. Smith detected sulphuric acid, chlorine, and a substance resembling impure albumen. These substances are constantly being condensed upon cold bodies, and in a warm atmosphere the albuminous matter very soon putrefies and emits disagreeable odours. The changes which this substance undergoes by oxidation, &c is next examined, and shown to give rise to carbonic acid, ammonia, sulphuretted hydrogen, and probably other gases. The ammonia generated fortunately from the same sources as the sulphuretted hydrogen materially modifies its influences. The consequences of the varying pressure of the atmosphere have been observed; and it is shown that the exhalations of sewers, &c. are poured out in abundance from every outlet when the barometric pressure is lowered. By collecting the moisture of a crowded room by means of cold glasses and also dew in the open air, it was found that one was thick, oily, and smelling of perspiration, capable of decomposition and of producing animalcules and confervæ, but the dew was beautifully clear and limpid. Large quantities of rain-water have frequently been collected and examined by Dr. Smith; and he says—I am now satisfied that dust really comes down with the purest rain, and that it is simply coal ashes. No doubt this accounts for the quantity of sulphites and chlorides in the rain, and for the soot, which are the chief ingredients. The rain is also often alkaline, arising probably from the ammonia of the burnt coal, which is no doubt a valuable agent for neutralizing the sulphuric acid so often found. The rain-water of Manchester is about 2¼° of hardness—harder, in fact, than the water from the neighbouring hills which the town intends to use. This can only arise from the ingredients obtained in the town-atmosphere. But the most curious point is the fact that organic matter is never absent, although the rain be continued for whole days. The state of the air is closely connected with that of the water; what the air contains the water may absorb, what the water has dissolved or absorbed it may give out to the air. The enormous quantity of impure matter filtering from all parts of a large town into its many natural and artificial outlets, does at first view present us with a terrible picture of our underground sources of water. But when we examine the soil of a town we do not find the state of matters to present that exaggerated character which we might suppose. The sand at the Chelsea Waterworks contains only 1·43 per cent. of organic matter after being used for weeks. In 1827 Liebig found nitrates in twelve wells in Giessen, but none in wells two or three hundred yards from the town. Dr. Smith has examined thirty wells in Manchester, and he finds nitrates in them all. Many contained a surprising quantity, and were very nauseous. The examination of various wells in the metropolis showed the constant formation of nitric acid; and in many wells an enormous quantity was detected. It was discovered that all organic matter, in filtering through the soil, was very rapidly oxidised. The presence of the nitrates in the London water prevents the formation of any vegetable matter—no vegetation can be detected in such water by a microscope, even after a long period. The Thames water has been examined from near its source to the metropolis, and an increasing amount of impurity detected. In the summary to his report, Dr. Smith states that the pollution of air in crowded rooms is really owing to organic matter, and not merely to carbonic acid—that all the water of great towns contains organic matter—that water purifies itself from organic matter in various ways, but particularly by converting it into nitrates—that water can never stand long with advantage unless on a large scale, and should be used when collected, or as soon as filtered.—*British Association, Athenæum report.*

ON OPEN FORAMEN OVALE. BY DR. MAYNE.

One of the consequences of this organic defect is, to permit the venous blood to pass, in quantities more or less considerable, from the right side of the heart directly into the left, without traversing the lungs or undergoing the process of respiration. The assemblage of symptoms produced in this manner by the admixture of the venous with the arterial current at the *left* side of the heart, and the consequent circulation, throughout the system at large, of blood imperfectly aërated, constitutes a form of cyanosis well known to physicians. Comparative anatomists are also aware, that the human circulation, thus perverted, is somewhat analogous to the normal plan of the circulation in many of the reptile tribes, and that individuals so afflicted resemble in certain functions the animals to which they may (not inaptly) be considered as blood relations. The records of medical science abound with examples of cyanosis thus produced.

Other cases there are, in which the foramen ovale remains permanently open *without* producing cyanosis; and certain it is (let the explanation be as it may) that a patent condition of the aperture in question is compatible with a long life, and with a healthy condition of the circulatory and respiratory functions.

Much ingenuity has been displayed by writers, particularly those of the French school, in attempting to explain such dissimilar results from one and the same organic lesion. In many instances, where an open foramen ovale produces *no* disturbance of function, the valvular disposition of the aperture, or its small size, prevents any interchange of the venous and arterial blood; and in others, the ventricles, the auriculo-ventricular, the pulmonary, and the aortic orifices, retain their proper dimensions, and the auricles their just proportions, so that the blood at either side of the septum flows onwards in its natural course, without impediment, and consequently no intermixture arises.

There is still, however, a third class of cases of the same malformation. In these, arterial blood passes from the left side of the heart into the right, through the open foramen ovale, and thus a mixture of arterial with venous blood taking place in the right auricle, the current transmitted to the lungs for aëration is a mixed fluid, consisting partly of venous and partly of arterial blood. This deviation from the natural course of the circulation is the converse of that already described as producing cyanosis; in the one, the current flows from the right auricle into the left, depriving the lungs of a portion of the blood which ought to circulate through them, and supplying the system at large with a mixed fluid, partly venous and partly arterial, thus causing cyanosis; whilst in the other, the current flows from the left auricle into the right, depriving the system at large of a portion of the blood which ought to supply it, and transmitting to the lungs a mixed fluid, partly venous and partly arterial.—*Dublin Quarterly Journal.*

ADAPTATION OF THE EYE TO VISION AT DIFFERENT DISTANCES. ACTION OF THE IRIS.

In addition to the many proofs already afforded that the action of the *iris* is not the force concerned in adapting the eye to various distances of vision, and that alterations in the width of the pupil may take place without any corresponding change in the distinctness of objects under view, Hueck states that without altering the direction of the axes of his eyes or the quantity of light admitted, but merely by fixing his attention on a side object, he was able to widen his pupils as much as one half more than their former diameter, without there ensuing any indistinctness of the object towards which the eyes were directed. He observes also that the inefficiency of the iris, in this respect, is demonstrated by the fact, that individuals in whom the iris is wholly wanting, have usually perfect vision for near as well as distant objects.—*Baly and Kirkes's Recent Advances in Physiology.*

MODE OF EXAMINING THE SKIN.

At a late meeting of the Paris Academy of Sciences, M. Flourens exhibited a portion of human skin, prepared and presented by M. Retzius. It was taken from the axilla, and was said to show very beautifully the sebaceous glands, and, in the deeper texture, the large sudoriferous glands. Both were distinctly visible to the naked eye, and with a simple lens, their general structure, and the coots of the sweat-glands, were very perceptible. The preparation was made by macerating the skin in sulphuric ether, which rendered its texture transparent.

METEOROLOGICAL SUMMARY.

Mean Height of Barometer				29·88
" " Thermometer[a]				61·2
Self-registering do.[b]	max.	92·3	min.	38·2
" in the Thames water	—	63·5	—	61·5

[a] From 12 observations daily. [b] Sun.

Rain, in inches, 0·7: sum of the daily observations taken at 9 o'clock.

Meteorological.—The mean temperature of the week was 3°.4 above the mean of the month (57°.8).

BIRTHS & DEATHS IN THE METROPOLIS

During the week ending Saturday, Sept. 2.

Births.		Deaths.		*Av. of 5 Sum.*	
Males	688	Males	526	Males	495
Females	649	Females	494	Females	477
	1337		1020		972

West—Kensington; Chelsea; St. George, Hanover Square; Westminster; St. Martin in the Fields; St. James .. (Pop. 301,326)	150
North—St. Marylebone; St. Pancras; Islington; Hackney ...... (Pop. 366,303)	189
Central—St. Giles and St. George; Strand; Holborn; Clerkenwell; St. Luke; East London; West London; the City of London ...... (Pop. 374,759)	187
East—Shoreditch; Bethnal Green; Whitechapel; St. George in the East; Stepney; Poplar ...... (Pop. 393,247)	230
South—St. Saviour; St. Olave; Bermondsey; St. George, Southwark; Newington; Lambeth; Wandsworth and Clapham; Camberwell; Rotherhithe; Greenwich ...... (Pop. 479,469)	264
Total	1020

Causes of Death.		Av. of 5 Sum.
All Causes	1020	972
Specified Causes	1018	968
1. *Zymotic* (or Epidemic, Endemic, Contagious) *Diseases*	418	257
Sporadic Diseases, viz.—		
2. Dropsy, Cancer, &c. of uncertain seat	31	45
3. Brain, Spinal Marrow, Nerves, and Senses	102	120
4. Lungs and other Organs of Respiration	86	80
5. Heart and Bloodvessels	32	28
6. Stomach, Liver, and other Organs of Digestion	55	79
7. Diseases of the Kidneys, &c.	12	8
8. Childbirth, Diseases of the Uterus, &c.	11	10
9. Rhematism, Diseases of the Bones, Joints, &c.	9	7
10. Skin, Cellular Tissue, &c.	7	1
11. Old Age	34	50
12. Violence, Privation, Cold, and Intemperance	22	8

The following is a selection of the numbers of Deaths from the most important special causes:

Small-pox	38	Paralysis	11
Measles	12	Convulsions	40
Scarlatina	144	Bronchitis	28
Hooping-cough	26	Pneumonia	35
Diarrhœa	61	Phthisis	117
Cholera	7	Dis. of Lungs, &c.	6
Typhus	89	Teething	4
Dropsy	22	Dis. Stomach, &c.	6
Sudden deaths	1	Dis. of Liver, &c.	9
Hydrocephalus	26	Childbirth	8
Apoplexy	18	Dis. of Uterus, &c.	3

Remarks.—The total number of deaths was 48 above the weekly summer average. There is a slight increase on the preceding week in the mortality from scarlet fever, which appears to be at the present time more prevalent and fatal than it has been for some years. The deaths from this disease were 144, to a weekly average of only 37. Of these 140 were among infants.

BOOKS RECEIVED DURING THE WEEK.

(The List will be given next week.)

NOTICES TO CORRESPONDENTS.

The communications of Dr. Mayo and Mr. Jennette will be inserted in the following number.

Mr. Craig's letter on Chloroform has been received.

Received.—Mr. Rumsey; Mr. W. F. Barlow; An Apothecary.

THE GENERAL INDEX.

We have to announce to our Subscribers that a General Index to the *first* 40 *Volumes* of the London Medical Gazette will, it is calculated, form a large Volume of about 700 pages. The cost of the Index Volume, respecting which many inquiries have been made, will be Twenty-four Shillings; and it is proposed to commence it so soon as the Names of *Five Hundred Subscribers* have been obtained.—The printers, Messrs. Wilson and Ogilvy, 57, Skinner Street, will receive the Names of Subscribers.

London Medical Gazette.

Lectures.

CLINICAL LECTURE ON PARALYSIS,

Delivered at King's College Hospital,

By R. B. Todd, M.D. F.R.S.
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(Reported by Mr. S. J. A. Salter, A.K.C.)

Lecture IV.

Gentlemen,—The case upon which I propose to comment to-day is one of not uncommon occurrence—a form of paralysis of the face dependent on the loss of power of the facial portion of the seventh pair of nerves.

As every form of palsy has a formidable appearance, and is apt to create much alarm in the minds of the patient and his friends; and as this is particularly the case when the face is affected, and the more so in proportion to the greater distortion of the countenance, I advise you to make yourselves well acquainted with the various kinds of palsy that affect the face. The alarm which a loss of power in one side of the face, and a distortion of the balance of the features, occasion to the patients or their friends is very great—and naturally so. Paralysis is a formidable symptom; and on its first appearance it is apt to be looked upon as a sign of the break-up of the patient's constitution—an indication that his doom is sealed. It is very important that, under such circumstances, the medical attendant should display a perfect acquaintance with the real state of the case, and be able to allay the patient's or his friends' fears, when the nature of the case admits of his being able to do so. As in the generality of palsies, such as the patient now in the hospital suffers from, you may speak with confidence as to the ultimate result, at least as regards the patient's life; and as your prognosis should rarely or never be otherwise than favourable, you ought to possess a thorough knowledge of the signs and the symptoms of this malady, so as to enable you to recognise it readily and confidently whenever it comes before you.

The subject of this case is John Garrey; he is in Fisk ward, and you can scarcely fail to recognise him by the peculiar expression of his countenance; for on one side his look is most doleful and melancholy, while on the other it is very much the reverse.

He is 39 years of age, and was admitted into the hospital on the 6th of January: the report in the case-book of that date goes on to say that "he is a native of Ireland, but has lived in London ever since he was nine or ten years of age: is a married man, a carpenter by trade; temperate, and has always had good general health until a week ago, when, after keeping in-doors for a fortnight, in consequence of having a bad leg, he was obliged to go out in search of work, and was exposed all day to very cold weather: in the evening he had an attack of shivering, and twitching in the under lip on the right side; after supper, he found his lip drawn to the left side, but it was free from pain. About four days after this he was seized with a severe pain behind the right ear, which still continues, as do the distortion of the face and inability to close the eye on the right side, even during sleep; he cannot whistle, and he frowns only on the left side. Upon trying to shut the eye he carries the ball upwards and inwards, but does not bring the lid down over it, excepting a very little. He protrudes the tongue in the median line."

The leading character of these cases of facial palsy is the inability to close the eyelids, from paralysis of the *orbicularis palpebrarum* muscle: this is the pathognomonic sign which determines the peculiar nature of the palsy, and distinguishes it from the more serious form of facial palsy which is dependent on disease of the brain and palsy of the fifth nerve. It is remarkable how seldom the seventh pair of nerves is affected by disease of the brain. I cannot say that I ever saw a single instance of paralysis of the orbicular muscle of the eyelids due distinctly to diseased brain; and I have only seen a few in which the power of the muscle appeared to be enfeebled from that cause. Thus we have a point favourable and consolatory to a patient afflicted with *portio dura* paralysis; namely, that the affection being seated in that nerve affords a strong probability that he is free from disease of the brain; for diseased brain would give rise to a different form of facial palsy, and very rarely, if ever, causes this.

You have only to examine this patient with care, and you will find that he has almost every sign which indicates that the paralysis has its seat in the portio dura nerve. He cannot close his right eyelids; in making the attempt, however, he seems not to have lost the power altogether, for the upper lid is slightly depressed; yet if you put your finger on the orbicular muscle you do not find the slightest contraction of it. How, then, is this slight depression of the upper lid produced? Watch him closely while he shuts the left eye and attempts to do the same with the right, and you will perceive that at the moment the

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left eye is closed, the right eyeball turns upwards and inwards to such an extent that the cornea is nearly or wholly concealed by the upper lid, and by this upward movement of the ball the upper lid is slightly depressed. The same upward movement of the eyeball takes place on the sound side at the moment of the forcible contraction of the orbicular muscle. It is a very curious instance of an involuntary movement which cannot be controlled, accompanying a forcible action of another kind; and no doubt has reference to the complete protection of the eyeball against all those sources of injury which would occasion the forcible closure of the eyelids.

Sir Charles Bell, to whom we are so much indebted for our improved knowledge of the paralytic affections of the face, dwelt much on this upward movement of the eyeball. He affirmed that it took place in sleep, and that during sleep the eyeball retained this position. I doubt much the correctness of this assertion. I have had many opportunities of satisfying myself that in perfectly tranquil sleep the eyeball is directed forwards, and seems suspended in the orbit, being equipoised among its muscles. Close the eyelids slowly and without force, and the eyeball remains quiescent,—contract the orbicular muscle forcibly, instantly the eyeball turns upwards and inwards. When the orbicular muscle is made to contract strongly as a reflex action, as when you try to push any object into the eye, the upward movement takes place. But in ordinary winking you have none of it. This movement of the eyeball, then, accompanies only forced contraction of the orbicular muscle of the eyeball.

If you will take the pains to watch persons sleeping, whenever you have the opportunity, you will find that in *sound* and *tranquil* sleep there is no indication of active contraction of the orbicular muscle: there are no wrinkles of the eyelid, and no depression of the brow, as when that muscle is in strong contraction;—if, with the greatest care and gentleness, you raise the upper lid, you will find the eyeball directed forwards, maintained in this position by the equilibrium of its muscles. Should your attempt to raise the lid give rise to a reflex action, you will encounter a distinct resistance from the contraction of the orbicular muscle, and the eyeball will be turned upwards and inwards, more or less forcibly in proportion to the force of the reflex action. I think, therefore, we are justified in asserting, that in sound sleep the position of the eyeball is one of quiescence, that it is maintained in that position by the passive contraction of all its muscles, and that the eyelids are kept closed by the passive contraction of their orbicular muscle, and that there is no effort or influence of the nervous system directed upon any of these muscles. It is only when sleep is disturbed, when the mind is more or less active, as in dreaming, that you will find active contraction of the orbicular muscle of the eyelid.

Our patient is unable to frown on the right side, while he does so distinctly on the left; neither can he move his scalp on the right side: the corrugator supercilii, and the frontal portion of the occipito-frontalis muscles, are paralysed—and hence these movements cannot be effected. The levatores alæ nasi, and the zygomatic muscles, are likewise paralysed on the right side, and therefore the right nostril is motionless, and the angle of the mouth hangs on that side. The orbicularis oris muscle is paralysed as to its right half: the patient is consequently unable to purse up his mouth, and if you ask him to whistle, he will afford you indications of his inability to perform this as well as other actions. In making the attempt to whistle, you may perceive that he contracts the orbicular muscle of the mouth on the left, but not at all on the right, and so he is quite unable to get his lip into the position necessary for the production of sound; and, while trying to adapt his mouth for this purpose, he smiles or laughs, as is so often the case when you ask a person to whistle, and you are thus enabled to see how completely the action of the features is confined to the left side. The act of smiling or laughing is exaggerated on the left side, and the reason is because the left muscles have lost completely the resistance of those of the right side, which remain perfectly motionless, and which from disease have lost their tone, and have suffered much in their nutrition. For the same reason all the movements of the features which act in symmetry, and which at the same time counterbalance each other, are found to take place to an exaggerated extent on the healthy side. Hence, in smiling, laughing, and speaking, the face is drawn more or less to the right side: the distortion takes places on the healthy side, the paralysed side remaining unmoved. The popular notion, in cases of this kind, is that the disease is on the side to which the mouth is drawn. No medical man, however, can fall into this mistake if he be at all acquainted with the real condition of the patient.

Another muscle which is paralysed in this case, and in all cases of the same kind, is the buccinator. Hence the cheek hangs loose, and, as the patient speaks, it flaps to and fro. This extreme looseness of the cheek is not an early symptom of this form of paralysis; it manifests itself more and more, the longer the duration of the disease, and ultimately becomes the cause of symptoms very troublesome to the patient. It interferes not only with articulation, from its looseness and the flapping movement while the patient is speaking, but with mastication likewise. The palsied muscle allows the food to accumulate between the teeth and the jaw, and fails in its function of supplying the mill with its proper amount of material to be ground. After a little time, patients learn to remedy the defect of articulation which the paralytic condition of the buccinator muscle causes, by supporting the cheek with the hand; and a similar kind of support helps to remove the inconveniences of mastication.

You will observe that all the muscles paralysed in this affection are *superficial:* they are all muscles more or less concerned in the expression of the countenance. The deep-seated muscles are nót affected—these are muscles of mastication—the only muscle paralysed, which is concerned in mastication, being the buccinator, which is, however, only accessory to that function, and is as much or more a muscle of expression.

And now we come to a most important question—what is the exact nature of this disease? is it a disease of certain muscles? or of a certain nerve or nerves? or is it an affection of the brain? Its one-sided character would denote its being a cerebral affection: it may, however, occur simultaneously on both sides, and I know of one instance of this kind. Experience, however, as I have already told you, assures us that it very rarely indeed accompanies cerebral disease; sometimes it occurs as the result of *intra-cranial* disease, but rarely, if ever, from lesion of the brain itself. What, then, is its nature? Sir C. Bell clearly pointed this out long ago, and to him we are especially indebted for our knowledge of the precise nature of the disease; so much so, that some designate the disease Bell's paralysis of the face. Not that I should recommend you to adopt this name; for I must say that I cannot regard it as any compliment to the great names of our profession, to attach them to any of the numerous ills to which our flesh is heir.

Sir C. Bell first pointed out the true nature of this palsy, because he was the first to unravel the intricacy of the nerves of the face. He showed that one nerve, and one nerve only, was at fault in this disease, and that it was strictly a local paralysis, due to a destruction of the nervous force in some part of the course of this nerve. The affected nerve is the portio dura of the seventh pair: the proper facial nerve which supplies all the muscles paralysed in this affection, and is the only nerve which supplies them. The fifth pair is not affected, because the muscles of mastication are free, and because the sensibility of the face remains intact. Sometimes the patient complains of slight pains in the face, which may probably be due to a slight affection of the filaments of the fifth, which anastomose with the portio dura.

There is, however, one muscle paralysed in this affection, which does receive a supply from the fifth—namely, the buccinator. This muscle has two motor nerves—a branch of the facial, and the long buccal nerve from the fifth: the former may be regarded as its nerve of expression; the latter as its nerve of mastication. How comes it, then, that if the first be paralysed and the muscle ceases to act in expression, it likewise ceases to act in mastication? The two nerves are distinct; and the buccal nerve is one of considerable size, and to all appearance would seem perfectly adequate to the maintenance of a different action independent of the portio dura. It is not easy to find an explanation of this curious fact, which is equally true if the nerve first palsied be the fifth—as in cases of hemiplegia, in which the hanging of the cheek is due to paralysis of the buccal nerve, and of the buccinator muscle. The advocates of Dr. Hall's views would doubtless explain it by assigning to the facial nerve a specially spinal character, and to the fifth a cerebral. The palsy of the facial nerve would, according to these views, not only destroy the influence of the will over the muscle, but also cut off its supply of irritability. Without going into other serious and fatal objections to this explanation, it is quite enough to state that it is inadequate to explain the complete palsy of the buccinator muscle when the fifth is the only nerve affected, as in common hemiplegia.

In some instances the velum of the palate participates in the paralysis; and when you look into the patient's throat, you find the uvula inclining away from the paralysed side, and the velum drawn to the sound side. It is probable that the portio dura exercises some influence on the muscles of the palate through the greater superficial petrosal nerve of Arnold, which arises from the knee-shaped ganglion that is formed upon the trunk of the portio dura in the aqueduct of Fallopius, and communicates with Meckel's ganglion, whence the palate-muscles derive their nerves. Possibly this influence may be more direct in some cases than in others.

As this is a purely local palsy, its causes are generally strictly local. Thus a common cause of it, and especially in strumous children, is *otitis*, and the subsequent caries of the petrous portion of the temporal bone. In such cases the paralysis is generally very complete: it is caused by inflammatory or destructive disease of the nerve in the Fallopian aqueduct, and it is often associated with a discharge from the ear, and with deafness. Injury to the trunk of the nerve may give rise to this form of palsy; hence it often follows surgical operations on the face, and accidental wounds in the parotid region; and formerly, before the true function of the facial nerve was known, when surgeons used to divide this nerve for *tic douloureux*, this form of paralysis used to be regularly manufactured by chirurgical skill.

A very common cause of this palsy is exposure to cold; as by exposure at an open window in a coach or railway carriage to a current of cold air. The case under our consideration was one of this description, the patient having been exposed the whole day to a cold atmosphere while in search of work. These are instances of what has been called "*peripheral paralysis*,"—cold acting directly on the peripheral ramifications of the nerve.

Sometimes you meet with cases which cannot be satisfactorily traced to exposure to cold: the patients, however, will be found to be out of health, and to have had pains about the face and neck for some days. It is probable that in all cases which have not a traumatic origin, or are not caused by disease of the petrous bone, there may be some constitutional fault which may shew itself in this local malady, just as painful affections of sentient nerves—the fifth, for instance—are undoubtedly generally of constitutional origin.

Mr. Bowman tells me he has met with several cases of distinctly rheumatic paralysis of the portio dura among the patients at the Ophthalmic Hospital, Moorfields.

Very lately I have met with a well-marked case of palsy of the portio dura which was rheumatic in its origin. A man had severe rheumatism of some of the intercostal muscles of the left side. This got well, and then the muscles of the hip became affected, and he was completely lamed in consequence. As these were getting better, he found his face to become suddenly paralysed on one side, with all the symptoms of palsy of the portio dura.

Periodical neuralgic affections are, I believe, generally due to the determination of some poison to a particular nerve—as the paludal poison, or some matter generated in the system, gouty or rheumatic. There is no reason why such morbid matters should not affect a motor nerve as they affect a sensitive nerve, causing paralysis in the one case, and neuralgia in the other.

The cause of the palsy, in the case under our consideration, appears to have been the direct influence of cold. This view is confirmed by the pain which the patient suffered at first in the neighbourhood of the ear; as if the ear itself and the nerves about it were chilled, and some degree of inflammation excited in them in consequence.

The duration of this palsy varies considerably: it rarely, if ever, lasts a shorter time than ten days, whilst it very often extends to as many weeks: perhaps three or four weeks may be assigned as an average duration for the non-traumatic cases.

The prognosis in cases of this kind should always be founded upon the cause. When the paralysis has been caused by mechanical injury, your prognosis must generally be unfavourable, more especially if any distinct solution of continuity have taken place in the nerve. Nerve-substance is very slow of regeneration; and when it is reproduced, the new fibres do not adapt themselves with precision to the old ones, and so they form very imperfect conductors of the nervous force. But if the paralysis is due to cold or to some constitutional cause, it almost invariably gets well. But you should bear in mind that even in cases which are incurable by reason of the solution of continuity of the nerve, there is little in this form of paralysis tending to shorten life, or calculated to prove otherwise than inconvenient, by causing imperfection of speech, mastication, and vision, and sometimes of deglutition.

In Garrey's case I have given a favourable prognosis, believing that no serious mischief has been done to the nerve, and that it has not been the subject of destructive disease. He begins to gain some power over the orbicular muscle of the eyelids, and the distortion of the face is somewhat less. The duration of the palsy has already been quite three weeks, and it seems probable that the patient's recovery will not be rapid, as so little amendment has as yet shewn itself. I have observed that when they begin to mend early—that is, within a week—complete recovery takes place very rapidly; but if the first signs of improvement show themselves late, the recovery is slow, or only partial.

You will likewise find it necessary to be guided by the cause of the palsy as to the course you will pursue in its treatment. If otitis be its cause, and the inflammation be of recent occurrence, it will be necessary for you to have recourse to the usual antiphlogistic measures for its suppression; and in such a case it may be desirable to carry the use of mercury to ptyalism. In the palsy from division of the nerve, all medical treatment is useless; and when the disease has been caused by cold, or has arisen from any constitutional cause, much medical interference is not requisite. If there be pain of the face, warm fomentations will prove useful. Sometimes a few leeches at the angle of the jaw, or over the parotid space, or behind the ear, may be tried, or a blister, or iodine paint. I cannot say that I have ever known clear and distinct benefit produced by any of these remedies in shortening the duration of the palsy.

In the use of internal remedies you must be guided by the diathesis, and the existing condition of your patient. Mild purgatives are generally useful, and sometimes alkalies and sudorifics, and I have seen decided benefit from the use of the iodide of potassium. I cannot name to you any remedy which will act specifically on the palsied nerve. Strychnine is of no use in such cases.

As to local remedies, I advise you to abstain from the use of them, if possible. Blisters are open to this objection, that they sometimes cause enlargement of the neighbouring glands of the neck, which, by their pressure, may increase the evil we wish to remove. Galvanism, used carefully, may be useful,—always remembering, in the use of it, to vary the direction of the current, and never to carry it on so long as to exhaust any small amount of nervous force which the nerve may be capable of generating.

Our patient, Garrey, has been treated chiefly by leeching and fomenting, and purging, in the first instance, and afterwards by the iodide of potassium. He has been completely relieved of pain, and his muscular power is beginning to return. I propose shortly to try the effects of galvanism with him.

Garrey suffers from a very troublesome symptom, of constant occurrence in these cases, and which is very difficult to deal with—I mean irritation of the conjunctiva, occasioning free lacrymation and soreness of the eye. This is obviously due to the constant exposure of the eye, occasioned by the loss of the power of winking; and it can only be obviated by attention on the part of the patient to the protection of the eye, or by his wearing a shade to cover it.

ANALYSIS OF WROUGHT IRON PRODUCED BY CEMENTATION FROM CAST IRON. BY PROF. MILLER.

It is to be noticed, that a considerable change in specific gravity occurs in iron after cementation. When forged, it was found to have increased in density; the brittle iron had a specific gravity of 7·684, the malleable 7·718. The results of analysis were briefly these:—the quantity, both of carbon and silicon, are materially diminished by the cementation, though still the proportion of both is materially greater than in good bar-iron. It also appears that the proportion of the carbon which is insoluble in acids, is nearly the same both before and after the iron has been rendered malleable, the diminution being confined almost to that portion of carbon which was chemically combined with the metal, and which, therefore, would be in a state for propagation through the mass more readily by cementation. — *British Association, Athenæum report.*

Original Communications.

OUTLINES OF MEDICAL PROOF.

By Thomas Mayo, M.D. F.R.S.
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[Continued from p. 62.]

During the last winter, in the able lecture delivered by Dr. Whewell at the Royal Institution, it was maintained that false theory had proved more advantageous to science than the absence of theory: in other words, agreeably to Lord Verulam, that "truth more readily emerges out of error than out of confusion." I am not disposed to contest with Dr. Whewell his general proposition; but it deserves to be very attentively considered in its bearings on medical science, so far as it may there be accepted as a basis of reasoning. The value, indeed, of that empirical procedure which I explained in my last paper, derives additional evidence from the very peculiar nature of the curative operations which are constantly proceeding in some diseases irrespectively of our plans, except so far that they may be suspended or prevented by our interference. The progression of some disorders to a successful issue, if left absolutely to their own course,—of others, again, if the critical efforts of the system are modified and called out by art,—while, of other disorders, the course is altogether and uniformly mischievous, if left to itself, —impose very varying duties upon the physician in respect to boldness of pathological and therapeutical hypothesis. Now it is somewhat remarkable, that precisely *that* class of diseases in which nature, unassisted by art, seems most powerful to cure, has been the very class in which theory or hypothesis has been most active, and, I may add, most intrusive. I allude to fever; the ordinary forms of which certainly afford instances of a morbid procedure tending to a spontaneous cure. Now, if this be the case, it may appear not unreasonable if I select that class of disorders, as affording appropriate subject-matter for some more extended inquiry into the uses and abuses of theory. To this point I shall devote the following remarks.

I must refer to the general account which I have given in the "Outlines," of the relation of hypothesis to proof in our pathological and therapeutical deductions. Its foundation, I have there admitted, can rarely be laid in experiment; it must depend mainly upon observation. I may add, that, in its legitimate form, it may be said to spring out of observation, and to serve as a systematising principle, through which subsequent observations are arranged. It may thus be considered the result of an empirical induction, and the basis of, a scientific induction, between which processes it thus holds a kind of middle place, derived from the one, and occasioning the growth of the other. In its less legitimate form, which I have termed gratuitous, it is to be found classifying observed facts in reference to some principle presumed to pervade them: I say presumed, because its existence is taken for granted, on the ground that it offers an explanation of the reference of the facts to each other. Now the gratuitous hypothesis has been extensively applied to fever; that is to say, where the nature of the disease, in its relation to the vis medicatrix, is most marked, we have unhappily considered ourselves most at liberty to stray out of the region of fact. I have noticed in the "Outlines" the glaring deviations in this direction of the Brunonian theory. But it must be remembered that a barren theory may be nearly as mischevious as one which at once suggests wrong practice. Those into whom it is instilled may, in fact, not be aware of its sterility, or content with inaction. The wordy and unsubstantial nature of the hypothesis of spasm, as the cause of fever, is sufficiently shown in the readiness with which it takes any form which the imagination of its employers has been disposed to give it. Thus, while the first stage in the febrile paroxysm is assumed, both by Cullen and Sauvages, to consist in spasm, according to Sauvages this hypothetical state involves a constrictive force, whereby the blood is propelled so as to conquer a stasis or obstruction: Cullen, on the other hand, having borrowed spasm from Sauvages, himself assigns it two functions. It is, according to him, both the source of the obstruction and the agent in the removal of the obstruction—that is, of itself. Now, whichever of these views we adopt, it is obvious that we must regard it as having no proved objective sense, through which the therapeutics may be determined. Yet will this hypothesis of spasm lend itself, with dangerous readiness, to many views, which a sober empiricism would discard from the treatment of the disease. Thus we find Cullen, Aph. 127, obliged, by the terms of his theory, to admit the use of antispasmodics as a method of taking off the spasm of the extreme vessels, which appears to be the chief cause of violent reaction. And thus the cautious and moderate Dr. Cullen might place the fever patient as mischievously under a hot regimen, as his ignorant and conceited pupil Dr. Brown.

If, in the absence of that inductive hypothesis which assigns causes on proof being afforded of their reality, we must, for convenience, sometimes adopt the gratuitous hypothesis which assigns causes on proof being afforded of their suitableness, let us do so in the discreet manner of our great teacher, Sydenham. Speaking of the terms ebullition and fermentation as of frequent use with physicians of his day, he observes, that he has himself no objection occasionally to use this language, provided it be perfectly understood that these (hypothetical) expressions "have no other purpose in his treatise than a more vivid illustration of his ideas." We may, indeed, permit the natural philosopher to help himself freely out of the treasures of his imagination: his aim and object is discovery: while the physician, in those diseases at least which tend to a spontaneous cure, is in an analogous position to him only when the vis medicatrix is failing; up to that time he has to watch and pilot the patient on a theory as empirical and as unpresuming as he can devise. Again, the hypotheses of the natural philosopher may be comparatively innocent, even while they are illusory, for they can be tested before they are applied to human use, while the discoveries of pathology and therapeutics can be tested only by application to man.

Between the nominalism, if I may use this term, of the gratuitous hypothesis, and the realism of the inductive hypothesis, as applied to fever, we may assign a place to a kind of hypothesis which we meet with, in which really existing conditions are assumed as its basis; but the connection between these conditions and the disease of which they are predicated is vague and illusory. Such, in some of its heads, is the hypothesis of fevers laid down by Pinel. Thus, in the mucous or pituitous fever and the gastric fever, the specific relation between states of the mucous or pituitous secretion in the one and gastic irritation in the other, to the fevers ranged under these heads, is eminently unsatisfactory. If, however, terms of this import and this relation to their subject-matter are rightly appreciated—not as explaining diseases, but as directing inquirers into modes of investigation, I have no disparaging remark to make against them.

But our hypotheses, even where they deserve the epithet inductive, have not always maintained that caution which befits us in dealing with a disease whose course will generally be more favourable in the absence of all hypotheses, than under the guidance of any other than the most carefully selected. The safest hypothesis, in fact, which we can apply to this subject is one which we may glean from the history of fevers transmitted to us by Sydenham. His observations enable him to establish the general fact of a change of their type occurring in successive periods, and in this way authorise us to expect a corresponding variation in treatment.

It is much to be regretted that the admitted value of this hypothesis has not made it more influential in the inquiries of subsequent pathologists. In our own day, two hypotheses, each utterly irrespective of the principle thus suggested by Sydenham in respect to fever, have widely influenced the practice of this country; each of them far removed from the gratuitous hypothesis in their obvious reference to observed facts as their bases, one of them distinguished in the highest degree by inductive precision. I allude to those of Dr. Armstrong and Dr. Louis. The debt of gratitude which we certainly owe to Dr. Armstrong for establishing a form of fever, congestive in its first stage, as requiring certain depletory measures, would have been more freely paid him, and his memory would have commanded a larger share of fame, had he imitated the circumspection of the pathologist,* who immediately preceded him in these views. It is true that the chemical inquiries, which have been carried out since the publication of Dr. Armstrong's works, into the constitution of the blood, have given to the symptoms, by which he recognised congestion in the above sense, a new significancy by suggesting causes of those symptoms, which connect them with crasis rather than quantity of blood; and it is equally true, that these practical difficulties in the application of his views, arising from this branch of science, would have been remedied had he left on record cases illustrating his practice under his theory of congestion. For the naked results of practice contain a source of information quite independent of the theory on which it may here have been founded. I am, indeed, the more desirous to attract attention to the views of Dr. Armstrong, because his want of precision, and the undue extent which he at first gave to his views, which no subsequent mitigation could undo in public opinion, have left them in abeyance. Cases are frequently occurring of well-marked typhus, in which depletion taking place at an early period, has obviously tended to give a successful termination. Other similar cases occur, in which a similar measure would probably prove equally successful, if the principle on which it may be carried out, were more definitely laid down. Still, in the absence of this practical character from Dr. Armstrong's speculations on congestive fever, I believe that his merits are truly and faithfully set forth by his friend and candid admirer, Dr. Boott. "It was commonly supposed," says Dr. Boott, "on the prevalent authority of Dr. Cullen, that the stage of oppression always attends fever, and that this was uniformly succeeded by one of reaction; fever, in fact, being made to consist in an increase of the heart's action and of the animal heat, excluding, therefore, the unmixed congestive form entirely. But Dr. Armstrong has proved, that in many cases there is no congestion, and in others that there is no reaction; and he has more explicitly shewn how the state of excitement arises; that it is sometimes direct or indirect in its origin, as well as the cause, and occasionally the effect, of inflammation."*

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* I allude to Dr. Rush. That Sydenham of America never fails to record the epidemic periods to which his views relate.

Conformably with the French system of pathological inquiry, which has become perhaps too popular among ourselves, Dr. Louis prefers the localised to the dynamical view of fever, and has based his hypothesis of the cause of typhus on the ulceration of Peyer and Brunner's glands. In common with Dr. Armstrong, he has neglected the example of Sydenham, and conceived himself to embrace the entire disease, when he has made good the phenomena of one epidemic period. Accordingly, we find him committing the errors which belong to unripe generalisation, and assuming that the debility of typhus is the effect of the glandular ulceration, while it can, in fact, exist in its highest degree in cases of which this symptom forms no part. If the views of Dr. Louis, contrasted with those of Dr. Armstrong, in being less dynamical, are less comprehensive, and so far less philosophical, they far exceed both Dr. Armstrong, and almost every other pathologist, in inductive precision. Both, however, of these writers are, as I have observed, of the right kind, in obtaining respectively their hypotheses from real grounds, and affirming, as such, truths, not plausibilities.

If comprehensiveness of views and careful observation are requisite to the framing a sound hypothesis, judgment and discretion are often requisite in a high degree for its just application. Thus an hypothesis may be framed to meet circumstances, under which its truth has to be assumed, not as having been proved, but as having became more probable than the contrary supposition; yet, under which *some* hypothesis had become very desirable. In short, circumstances may have arrived, in which the risk of confusion without an hypothesis has become a greater evil than the risk of error with one. But the hypothesis selected on these grounds may involve much practical mischief if taken unreservedly. Such would be the working—such, indeed, I may say, has been the working of the hypotheses framed to meet questions of epidemic or contagious fever. That in a particular place, at a particular time, fevers spread through a population, circumscribed by local limits, which they do not pass by conveyance through infected persons, is apparently most true. That there are other fevers, and generally other forms of pyrexia, which recognise no such circumscription, and which occur so frequently on an infected person being brought near some one else, who thus appears to receive the fever from him, as to imply transmission, is equally true. And if we let these two considerations serve as broad statements of a general probability, we use them discreetly according to the present state of our knowlege.

Now, it is perhaps theoretically right to assign to typhus, as some do, the first of these two descriptions. We perhaps cannot generalise on the subject of its spread with as much truth in any other way. Yet we may find reason to doubt our selection of this hypothesis, when we see cases of typhus, which had before been endemically circumscribed, spreading from bed to bed when admitted into hospitals. Still, the usefulness of the theoretical distinction is not in the least impaired by these qualifications, if rightly understood; but a great misdirection of reasoning is averted: this usefulness consists in its tendency to solve the practical question,—the general distinction between epidemic and contagious influence being assumed,—how far, and in what instances, should the precautions demanded on the second assumption be extended to cases mainly of the first kind.

In these last remarks, I am aware that I am only unfolding and exemplifying principles which our best physicians have been for some time carrying out. But, though they have arrived at this point, it is right in our speculations on medical reasoning, to consider through what perils men have passed while unenlightened by these sounder views, and to record them for the benefit of others. Thus we have been in danger of a removal of quarantine in reference to plague, while it was considered unphilosophical to admit the existence of contagion, where an epidemic influence had been demonstrated. The fallacy on which such reasoning proceeds is indeed still influential, or has been so to a recent date. Speaking of the poison of typhus, as "either at all times diffused in the atmosphere of some regions, or capable of being spontaneously generated in the human frame," the late Dr. Williams observes that, *if it be unphilosophical to admit the agency of two causes in the explanation of the same phenomena*, the theory of a spontaneous generation of the poison is negatived.[*] Now I quote this passage not in its relation to the doctrine which it conveys on the poison of typhus, but in relation to the logical principle conveyed in the terms quoted by me in italics. The excellent and learned writer of this passage should have remembered with what meaning we must often be content, in our imperfect science, to use the word cause, if we choose to use it, as he has applied it in that passage. The rare and singular merit of being the *vera causa* in the scientific acceptation of the term, in which it is presumed to contain all the essential antecedents to the effect, can rarely be challenged by medical causes, except, as has been observed in the Outlines of Medical Proof, when they have been obtained through experiment; and I have endeavoured there to prove that our inductions are mainly those of observation.

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* Life of Dr. Armstrong, vol. i. p. 124.

[To be continued.]

REMARKS ON THE

SYMPTOMS, TREATMENT, AND INFECTIOUS NATURE OF ASIATIC CHOLERA.

By Matthew Jennette, M.R.C.S., &c.

Hon. Surgeon to the Birkenhead Infirmary, and Surgeon to the Police Force.

My intention in writing the following observations on Asiatic Cholera, is not to pretend to give a full or complete account of that disease, but simply (having had an opportunity of seeing it in Dublin in 1832 and 1834) to give them as my mite to the general fund of knowledge on the subject, and which, although trifling, may, with the contributed experience of others, do something towards our profession coming to an agreement as to what is best to do should that direful visitation reach our shores. I am the more induced to do so, as, notwithstanding the melancholy experience that many of our brethren in the profession have had of the disease, doubts and uncertainty still hang over the medical horizon as to the treatment best calculated for the patient. At present, for instance, naphtha, chloroform, &c., are stated to be almost certain cures, just as cajeput oil in 1832 was considered so indispensable, that its name was in every one's mouth, and it was hoarded up by many as a precious panacea, lest the market might be exhausted, and thus the last hope of recovery be annihilated; but to what use, we will see in the sequel.

In describing the course of the disease, distinct stages are usually pointed out, which are well enough for its convenient portraiture, but the practitioner will find by experience no such regular succession of symptoms; as the greatest irregularity prevails in their duration and severity, each may have priority or be absent, or all may attack together. Although an individual may from apparent health pass through all the stages to death in two hours, the disease may linger for two or three days before anything occurs to produce sufficient alarm in the patient to cause him to seek for advice; some complain most of cramps, others of vomiting, and so on. On questioning patients, it will be found that many have suffered from slight diarrhœa for some days, during which time they may be considered as it were on the brink of a precipice,—for unexpectedly, generally at night, a sudden pain in the abdomen seizes them: this is often confined to the pit of the stomach, or the course of the transverse arch of the colon; the contents of the stomach are now rejected, and inordinate thirst is complained of; soon the bowels are moved, and a dark offensive motion is passed, not unlike a linseed-meal poultice in appearance: the strength becomes prostrated; the fingers and back of the hands assume a dirty hue; the thirst is insatiable, and each indulgence in drink excites vomiting of a wheyish fluid, much larger in quantity than the beverage swallowed, which is ejected with *force*: so uncontrollable is the desire of patients to empty their stomach, that after drinking you will often observe them tickle their fauces to produce that effect, and the next moment implore as earnestly for more drink, to be again ejected by the same means: a sensation of burning is felt at the stomach, and the drink craved, (which is generally cold water), is solicited in order, as the patient will tell you, to cool his inside. After each fit of vomiting, a quiet, dozy state supervenes, with eyes so upturned as to expose only the white part through the half-closed lids: this appearance often continues some time after convalescence—an indication of the sufferings endured and the dangers escaped. The face, extremities, and abdomen, become cold; the chest not so much so; and often when the rest of the body is as cold as marble, the scalp is in its natural state, or preternaturally hot; and it is extraordinary, that while the surface is so cold, complaints of oppressive heat are made: the bed-clothes are constantly displaced, and external heat, however applied, produces discomfort to the patient, and although bottles of hot water, or bags of heated salt, may be tolerated for a while, if applied to his death-like feet, (as he sometimes fancies cramps are so relieved), it is necessary to watch constantly to prevent his kicking them from him. The features become sharp; the face apparently diminished in size; the eyes are quite hollow in their sockets; the expression of countenance is completely altered, and characteristic of alarm. The secretion of urine is stopped, although very often there is an urgent desire as if to pass it.

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[*] Elements of Medicine, vol. i. p. 33.

The alvine evacuations become frequent, and are ejected like those of the stomach, *forcibly*, but without pain, and are of a rice-water or wheyish character. The pulse is at first irregular and fluttering: it soon becomes small, quick, and easily compressible. In three or four hours the blueness of the hands becomes intense, particularly under the nails, and their skin is shrivelled: the insteps also become blue, but not so much so as the hands; the face assumes more of a leaden than a blue appearance; pressure for a while on a blue part restores the natural colour, but it soon recovers its diseased appearance. The respiration becomes laboured, and the patient complains of a great weight and oppression about the chest. The vomiting and thirst continues, while the purging often subsides after three or four rice-coloured stools. With the increase of weakness is the recession of the pulse, until it is lost in the wrist and instep, but for some time after may be felt in the temporal or carotid arteries. It generally beats from 100 to 130 in the minute. Shortly after the beginning of the attack, cramps in the great extensors of one or both feet become constant, and produce great agony. The fingers, though not often, are also sometimes affected. Spasms of other muscles are not common. The tongue generally at first is natural in appearance, but soon becomes coated with a white fur, is moist, large, flat, and soon, as well as the breath, becomes deadly cold: these characters it retains to the end, if it is unfavourable; if otherwise, the white becomes broken up into patches on a florid red ground. The voice the while subsides into a whisper; the words, nearly inaudible, are enunciated with an effort with a pause between each, and are blown out rather than spoken. Life is now fast ebbing; drink is no longer called for, but if given it apparently produces comfort. Cramps and vomiting cease; perhaps there is some involuntary discharge from the rectum, (often indeed considerable), even although purging had ceased for some time. The respiration becomes inaudible and thoracic: the abdomen falls in at each inspiration, and does not swell out again until the last moment of expiration, when an effort is made to exhaust the lungs to the utmost. After an uncertain time death occurs quietly, without convulsions, and generally without the tracheal rattle. The eye retains its brilliancy, the skin often becoming as pale before death as if it was produced by hæmorrhage. Singular, all through this scene the patient retains his consciousness, and whilst there is the stamp of death upon his features, and its cold grasp is upon him, and his appearance altogether of the most unearthly kind, as long as he retains the power of expressing his sensations, he does so, to those about him, with minuteness. The transition from life to death is sometimes hardly perceptible, and in many cases persons have been supposed dead before they were really so. It is strange, but bodies after death sometimes recover some warmth, and are even affected with cramps and spasmodic contractions of the limbs. This no doubt is owing to spasmodic irritation of the excito-motory system. The different parts die quickly after each other in ordinary death, and the excito-motory system, though the last to die, does so nearly at the same period as the others: but here there is a violence done to the animal functions, an interruption to the circulation, that even anticipates the death of the organic functions; and consequently, when the latter actually takes place, a change occurs, which partially restores the circulation, and gives a little irritability and excitability to the true spinal system. The symptoms, although generally as I have described, are sometimes very different: in some cases equally malignant as in the blue variety, the skin retains its natural pale appearance; sometimes there is neither vomiting or purging, or either is absent; in some the secretion of urine is only diminished; sometimes for some hours there is considerable fever, with warm moist skin, quick full pulse, &c., subsiding afterwards into the to-be-dreaded state of collapse, &c.

If the individual is to recover, the amendment is generally very quick: the pulse gradually returns, and recovers its tone; heat returns to the skin, and the appearance of anything from the stomach or bowels other than the rice-coloured discharge is favourable, but bile most so: indeed, when *it* is seen, the disease may be said to have lost its malignity. Hiccough following the first appearance of reaction is not a bad sign; the return of the secretion of urine is also favourable. The alteration in the character of the countenance is perhaps the best indication of recovery, accompanied with heat of skin, returning without external agency, and a pulse palpable at the wrist. In passing, we may remark how inappropriate the name cholera, derived as it is from χολὴ, bilis, and ρέω, fluo, is, inasmuch as that, instead of a flow of bile, there is a suppression of that secretion in the disease. Copland proposes to call it asphyxia pestilentia; but, as there is not much in a name, we may be content with the usual one of algide or Asiatic cholera.

On examination after death, the intestine is generally found to contain a ricewater-like fluid, like what was discharged during life; the abdominal viscera are much congested. With this state of engorgement there is also ecchymosis in the intestines, and sometimes under the peritoneum, &c. The urinary bladder is empty, and the gall-bladder generally distended: it is uncertain whether bile is secreted during this disease; however, none is discharged; the serous membranes are generally dry. Rayer says, the most constant and the most persistent intestinal lesion in cholera is the development of the follicles met with as well in the algide period as in that of reaction; but the most remarkable thing to be observed is the state of the blood: it is found in the great vessels, and sometimes even in the smaller ones, very black and grumous, and in the heart and large vessels there may be large fibrinous masses reaching far into them, and partially blocking them up. This is evidently a cause of interruption to the circulation, and is a common cause of asphyxia in blue cholera. The blood has lost its serum and saline contents to form the characteristic discharge of the disease: it is therefore thicker than usual, and unfit for circulation. This is the immediate cause of death, and patients have sometimes been restored by injecting alkaline solutions into the veins. The altered state of the blood, and the impediment to the circulation, explain the blueness and coldness of the skin, and the general collapse.

Much has been written and speculated as to the cause of cholera. I do not pretend to be able to elucidate so difficult a point; but I believe it is liable at all times and places to occur, if not as a pestilence, in isolated cases. For instance, I attended a well-marked case, a man named Lattan, about four years since, in William Street, in this town, and about six years since, a family of five, who took the disease in succession, in Castle Buildings. But to render it pestiferous as it has been in India since it first appeared in the Delta of the Ganges in 1818, or as it is now in the east of Europe, certain conditions of the atmosphere, of which we as yet know little, are required; but this atmospheric condition, even although the disease is raging in a district, will not produce the disease without communicating so with the affected as to inspire into the lungs the infectious matter which they generate and diffuse. This was beautifully illustrated at Sunderland, the first place in England affected in 1831. The 82d Regiment was quartered there then, and its surgeon, Mr. Kell, being convinced, from his own experience of the disease in the East, and the published statements of others, of the successful exclusion of cholera from populous places by prohibiting intercourse between those in health and the affected, determined recommending to the commanding-officer the closing of the barrack-gates, and the detention of the troops in quarters. On the 1st of November, the existence of the disease in the town being universally admitted, the barrack-gates were closed the next day, and no one allowed to enter except on urgent business. The disease was soon raging outside the walls: roll-calls were frequently ordered, and each individual in the barrack was daily examined: and, to enliven the dull months of November, December, and January, amusements, such as cricket, foot-ball, &c., were patronised and encouraged by the officers, and theatrical performances were had two or three times a week; and the men on guard at night, on account of cholera attacking generally at that time, were relieved after half the usual time of duty. It was not until the 1st of February that the gates were thrown open, at that time the town being declared free from the disease, which destroyed many within a few yards of the military quarters: thus affording an irresistible proof of the salutary effects of the measures adopted; for among the 400 inmates of the barrack there was not a single case. The question of infection and contagion, as regards cholera, is still, however, one about which much may be said *pro* and *con.* In the great cholera hospital in Dublin, for instance, very few indeed of the numerous nurses and attendants had the disease, although, when exhausted with fatigue, they would often throw themselves on the pallet with a collapsed patient. The Sisters of Charity, whose practical works of mercy were unceasing, sustained no injury, neither did the Protestant clergymen who prayed in the wards, nor the Catholic priest, whose duties obliged him to sit at the bedside with his face often in actual contact with that of the patient; nor did the medical attendants suffer; (however, on this point I must remark that I myself suffered from the disease acquired by attendance on the sick). In favour of its non-infectious nature, it is stated that its progress is too uniform to depend on infection; that troops affected by it have passed through a country and left it free from it (this argument, however, tells both ways); and, again, the disease wears itself out wherever it appears, and yet shews itself with renewed vigour in a new quarter, where, however, it is after a while rendered impotent as before. Its infectious character is supported by the fact of its spreading over countries differing in climate, soil, elevation, and population, from those where it first broke out: its progress is uniform and progressive, and often opposed to strong winds; ships arriving from a healthy place have never suffered until reaching the shore. In its progress, cholera has travelled chiefly by the great roads, affecting places at either side, without extending to those at a distance, &c. Although I have thus stated some of the arguments for and against the infectious nature of cholera, and am myself disposed to consider it very infectious, although perhaps not contagious, yet I do not feel myself justified in deciding the point, nor do I think it could be done unless we knew all about the localities, habits, police regulations, &c., of those places which have and have not suffered from the ravages of the disease. Fear of the disease—filth—bad and defective food—fatigue—intemperance—the depressing passions, &c., are powerful predispositions to the pestilence; whilst the opposites not only act as prophylactics, but very probably as antidotes. On this account, and to give public confidence, it is very likely many declared themselves to be non-contagionists, or even non-infectionists, in opposition to their own convictions. As to diagnosis: in severe forms of bilious cholera, the powers of life are often very much deranged; but the dark, ropy appearance of the blood—the cold, wet, shrivelled surface, and its blue colour—the absence of pulse from the wrist—marked and rapidly increasing collapse, and earthy odour of the body, even during life—the burning sensation between the scrobiculus cordis and umbilicus—the complete arrest of glandular secretions—and the coldness of the respired air, are *entirely* absent. Some poisons, as tobacco, occasion symptoms in some respect resembling Asiatic cholera; but the history of the case, and the characters distinguishing it from severe bilious cholera, are enough to point out the difference. As regards treatment, the most opposite plans have been adopted, with perfect failure in some cases, and as complete apparent success in others. It is remarkable that where this scourge has been most severe, its disappearance has left us in the same uncertainty as to its treatment in which it previously found us. Its appearance in 1832 had the effect of reviving the analysis of the blood as a basis for medical practice, and various proposals have in consequence been made; for instance, it was found to contain more carbon than it ought, and the inhalation of oxygen and protoxide of azote was tried in Dublin; but the effect was unsatisfactory. Dr. O'Shaughnessy proposed supplying the deficiency of fluid and saline matter in the blood by injecting into the veins water containing muriate and carbonate of soda, in the proportion of ½ oz. of the former and ℈iv. of the latter to 10 pounds of water, at a temperature of from 104° to 118°; but, as far as I can learn, this plan has not been very successful in ultimately saving life, although it has had a wonderful effect in many collapsed patients by restoring the circulation, warmth, &c., and removing, in fact, all bad symptoms for a time; but unfortunately, generally they soon relapse and die. But here an important consideration is suggested—to wit, that, although a patient may be incurable, he may, nevertheless, by this means be restored, at least long enough to settle his worldly affairs. Then there has been Dr. Stevens's plan of supplying those salts to the blood by the intestinal absorbents, a proceeding which I believe has not stood the test of experience: he gave a powder containing ʒss. Carb. Soda, ℈j. Mur. Soda, and gr. vij. Oxym. Pot., every hour, in a glass of toast water, till reaction set in, and then at longer intervals;—he applied mustard poultices, kept the apartment warm, and gave injections of a pint of warm water, containing in solution a tablespoonful of common salt and two of sugar. M. Levacher, of Paris, observing the blood of cholera patients to be deficient in albumen, treated them with white of egg beat up and mixed with cold sugar and water; this he gave both by injection and the mouth, and he stated that his success was wonderful. I am not aware whether this treatment was tested in this country.

A certain gentleman in Dublin proposed to remove, as he expressed it, "a few tons" of atmospheric pressure off the surface by means of a sort of air-tight body case, having a hole for the head, with an air-pump attached: but this is too absurd to dwell upon.

Mr. Spilsbury, a surgeon of Walsal, recommended in some journal during the epidemic of 1832, cold affusions, to the exclusion of other treatment; but although I would be afraid to try this plan, I have an idea that the sweating plan of the hydropathist might be useful. While I think so, let it not be for a moment inferred that I am a follower of Priessnitz.

To discuss this treatment properly we may consider three types or forms of cholera:—1st, where there are well-marked premonitory symptoms, particularly diarrhœa, for a time, varying from a few hours to three or four days, and then, if neglected, passing into the characteristic blue stage; 2nd, where the premonitory symptoms are of very short duration, and consist principally of giddiness, noise in the ears, a sense of oppression in the chest, weight in the epigastrium, &c., rapidly passing into the usual state of collapse; and 3rd, where there are no premonitory symptoms, but the patient's vital powers are suddenly laid prostrate—sudden discharges of serous fluid take place from the stomach and bowels, with cramp and spasms—the pulse not to be found at the wrist, and his breathing laborious—all the marked characters of collapse being present. This last form is generally beyond the reach of medical aid, as the first is the most manageable. We also find the first variety more frequently with the young, and the latter in old subjects; but we will meet with bad cases in every age, from childhood upwards. We may also divide the disease into four stages: the premonitory—that of collapse—the stage of reaction—and lastly, of vital exhaustion. We are not to expect in every case those four stages,—very often we have only the second and last, with perhaps no attempt to get up the third or reactionary stage. Much has been said and written about the consecutive fever of malignant cholera; but the result of the experience of the disease in Dublin led practitioners there to believe that the supervention of fever, with or without inflammatory engagement of the cranial, thoracic, abdominal, or other viscera, on reaction coming on, is not a legitimate consequence of the disease; but that, should the treatment by stimulants be adopted, great care and watching will be necessary; for if you allow the moment reaction commences to pass unobserved, and push them further, febrile disturbance will surely occur: this often happened, but there appeared nothing specific, it having only the characters which follow the abuse of opium, brandy, &c., and appeared more manageable.

The public ought to be warned to send for advice on the first advent of gastro-intestinal symptoms; for, unfortunately, the distress and diarrhœa is often so trifling, that many do not apply for relief until the awful collapse sets in. Persons thus affected often go about and attend to their ordinary business, but the bilious diuretic stools glide gradually into the characteristic discharge. Castor oil, Gregory's powder, &c., have been suggested for this, but very improperly; Sydenham, long ago, compared this practice to extinguishing fire with oil: no, we must check the purging, which may easily be done by the vegetable astringents, such as kino, catechu, &c., chalk mixture, *small* quantities of opium, pil. hyd., &c.; or we may administer as an injection from ten to twenty grains of acet. plumbi, dissolved by a few minims of distilled vinegar, in 8 oz. of water; and this salt may also be given by the mouth, in pills containing 2 grs., with ⅛ gr. of opium, every second, third, or fourth hour, as the case may require. Often-repeated small doses of a strong infusion of buchu have also been strongly recommended. In fact, a person thus affected is in so recoverable a state, that I think if a fatal case occurs it must be from mismanagement or neglect. Such cannot be said of the next stage, that of collapse, or the blue condition; and I fear that, although however much we may flatter ourselves with understanding the disease, and however much we may at present rely on the assertions of others, we will be doomed often to disappointment in its treatment.

When we see a patient cold, pulseless, powerless, with difficulty of breathing, stagnant circulation, purging, vomiting, and cramps, it appears obvious enough that artificial heat must be applied, stimulants given, bleeding or antispasmodics employed, opiates and astringents had recourse to; and this, with of course considerable variety of detail, form the majority of the recorded practice. However, medical efforts form a melancholy restrospect in this disease: it has reversed judgment and confounded experience.

Before its appearance in Ireland, medical men very generally considered, from all they had read, and from the confident tone in which authors recommended certain treatments, that they were quite ready to meet the enemy face to face, and keep him at bay: but soon were they disappointed. Opium, for instance, did in many cases great mischief, producing its poisonous effects without answering the purpose for which it was given. Stimulants, as brandy, capsicum, cajeput oil, ammonia, &c., appeared to produce, in some cases, no more effect than if thrown into a vessel at the bed side; and in many were decidedly prejudicial. If they are used, it is a mistake to increase their potency to the intensity of the collapse: patients, whose cases *seem* to indicate the need of stimulants, almost always after the first dose express a repugnance to swallow them; even dram drinkers will refuse ardent spirits. In fact, stimuli often depress rather than elevate the pulse. General bleeding was found decidedly improper—possibly cupping at the epigastrium, or a few leeches to the anus, may be useful.

One of the strongest prejudices at first, in Dublin, was against the use of cold water as a drink, it having been asserted by some writer in India that its use was fatal; however, it got into general use by a patient (a hopeless case) in the hospital, surreptitiously getting it, and recovering. There are some severe cases where there is no vomiting; in these, to rouse the powers of life an emetic may be useful, and I believe ʒij. of powder mustard, repeated in ten minutes if necessary, is the best. In ordinary cases, although some practitioners do not dislike seeing the patient vomit, yet it is by most desired to arrest that discharge; *infusion* of coffee, not the *decoction*, often succeeds. Should the vomiting be accompanied with spasms, sinapisms to the spine or epigastrium, and nit. arg. may be given, in a dose of from 3 to 5 grains, in 8 oz. distilled water; if this fails, grs. v. of the subnit. bismuth given first, and 3 grs. every hour until ʒss. is used, or the ox. zinci may be tried in the same way; but when the vomiting is unattended with spasms, particularly when the discharge is acid, alkaline solutions, or aq. calcis, are best. A table-spoonful of a solution of about 1½ oz. of common salt to a quart of water, given every three or four minutes, sometimes *allays thirst* and relieves vomiting, and so enables active medicines to rest on the stomach. As to very warm clothing and artificial heat, contrivances were arranged in the Dublin hospital to throw hot air over the patient, the bed-clothes being lifted off the body by means of bed cradles. The patient would cry out to be let to die; that he could not bear it. Patients in collapse will not suffer anything of of the kind; but where heat is *naturally* returning to the surface, a patient will then be desirous to be covered, as much as he was before to strip himself. Bags of moderately-heated salt or sand to the feet, often are useful to relieve cramps; but hand friction or compression over the swollen muscles answer, I think, better. Sinapisms are sometimes useful, after leeching, to the epigastrium, but give great pain afterwards. Let it never be forgotten, that when a person is seized with cholera, he should at once be placed in the horizontal position, and if he is to be carried to another bedroom he must be removed as much as possible in the recumbent position, and not suffered to walk.

Having now given, as far as I am able, a sketch of the experience of medical men in Dublin, until the disease arrived at its acme, I will now shortly describe two plans which then began to be adopted there, both of which having many admirers, and, I believe, great success—the calomel and the acet. plumbi treatment. Mr. M'Coy, one of the surgeons to the cholera hospital, gave calomel *in large doses*, to the exclusion of all stimulants, dry with a little sugar, in doses of 10, 15, or even 20 grs., followed by a little cold water, every hour or half hour, as the urgency of the case demanded, with great success in cold pulseless cases: one had 440 grs. in 68 hours; another 360 grs. in 84 hours; 276 grs. to another patient in 13 hours, and so on. He only found this practice of no avail in cases of the third type, where the individual is suddenly laid prostrate, without vomiting, &c. These large doses of calomel, it is said, do not produce any of the ill consequences occasionally resulting from mercury. The soreness of the mouth generally appears in from 40 to 70 hours, and soon passes away. In a few cases there was a troublesome hiccough after reaction: gr. xx. of acid sulp. dil. in water every hour relieved it. The first stool, after the rice-water discharge ceases, under this treatment, is greyish; the 2d or 3d shows bile; cold water is given as a drink, and afterwards weak beef-tea, with the fat carefully removed: recovery is perfect in two to four days.

The treatment of cholera with acet. plumbi was proposed by Dupuytren in Feb. 1832: it is advocated strongly by Dr. Crawfield in his work on cholera; he had a most extensive experience of its use in the Grange Gorman Hospital of Dublin, and gave it both by enemata and by the mouth. He combines this salt, if the patient is losing ground, with stimuli, camphor, ammonia, &c.; or if the stomach will not bear those, with lime water, either alone or with a little good whisky. Dr. Graves speaks highly, also, of the use of acet. plumbi in cholera, in doses of two grs. and one eighth of opium, every half hour. Dr. Williams, of University College, and several others, speak favourably of this plan.

Having considerably exceeded the limits I marked out for myself, I must now conclude, although I am fully aware my essay is very imperfect; however, if by writing it I succeed in stimulating others to exertion in the study of the disease and its treatment, I will have accomplished what I had in view by so doing.

Birkenhead, 6th Sept., 1848.

OBITUARY.

On the 19th of June, at New York, whither he had gone for the recovery of his health, John Butter, Esq., surgeon of the Colonial Hospital at Trinidad, and formerly of Bristol, aged 42.

ON THE

DANGERS TO BE APPREHENDED FROM THE USE OF CHLOROFORM IN MIDWIFERY.

By JOHN CRAIG, Esq., Surgeon,
Paisley.

IN the MEDICAL GAZETTE for May 5, 1848, it is reported that Mr. Brown read a paper on the Employment of Chloroform in Midwifery. This paper, with its accompanying remarks, renders it, in my view, a very interesting document on the use of chloroform—interesting, because it shews that up to this date the conscientious accoucheur had nothing to guide him on which he could consistently depend in the use of this agent in the practice of midwifery. Some practitioners extol it as a means of great utility and safety in facilitating the expulsion of the child; others, with more caution and some doubt, hesitate to receive all the marvellous but ill-digested accounts which have been published on this subject. It is truly surprising that none of the principal supporters of the use of chloroform in midwifery-practice, in which the well-being and the lives of two human beings are at stake, should neither have taken into consideration the nature of the cases in which the vapour has been employed, nor the various powers and effects of the chloroform itself; consequently such an empirical and so blind a mode of procedure must have given rise to the reported dangerous and fatal results which have occurred. At page 777*, Dr. Moffat, of Edinburgh, is reported to have said that "parturient pains consist of two distinct elements: first, the muscular contractions; and, secondly, the sensations of pain to which they give rise; the latter (the sensation of pain) being in no degree requisite for the perfect performance of the former (the muscular contractions); that these two things are quite different; and that one of them (the sensation of pain) may be removed by anæsthetic means, whilst the other (the muscular contractions) are allowed to remain unabated; the former being unnecessary, the latter necessary, for the active process of parturition." This statement of Dr. Moffat's is so far true; for some women, without the aid of anæsthetic means, bear children without almost any pain, in which cases the labour is short,—shewing clearly that the latter element, pain, is one of the causes of protraction in labour: thus showing, that when a morbid condition of the expulsive organs is present, such as excess of pain, inflammation, &c., the duration of labour will be long, and the pain severe. But, on the other hand, in the great majority of severe and obstinate cases of protracted labour with which we most frequently meet, the subduing of the pains by anæsthetic means does not generally accelerate the expulsion of the child: thus exhibiting that the severity of the pain has but a minor share, in most cases, in arresting delivery. The cases, then, in midwifery practice, in which chloroform will either be really necessary, useful, or safe, will be very few in number. Besides, from what has been repeatedly reported, chloroform appears neither to be a suitable nor a safe remedy in child-bed cases; and we are informed that much of the mischief resulting from its use is not reported. Thus the conscientious and responsible practitioner, from all that has yet been advanced on the use of chloroform in midwifery, will infer that it should seldom or never be employed in obstetric practice, especially when much more certain and much more safe means have been repeatedly laid before the profession. (See MED. GAZ., Jan. 6, 1848, p. 31.) In this number it is noticed that the MEDICAL GAZETTE takes precedence of every other medical work in this or any other age, of having promulgated a consistent, safe, and natural mode of treatment by metropolitan practitioners in reference to that form of protracted labour which arises from a morbid state of the expulsive organs themselves. It is proper to state, for the honour of the responsible accoucheur,—for the safety and well-being of the parturient woman and her child,—that, whatever may be the means used to alleviate her sufferings, which always arise from a disturbed condition of the expelling organs in such labours, the principles by which the accoucheur is actuated, in order to success, must always be the same,—not at once to stupefy his patient by any means, but to ascertain the real causes of her unnatural suffering and unnecessarily prolonged labour, and, in a scientific and consistent manner, apply the means of relief according as each protracting cause may indicate, in order to its removal. It may unhesitatingly be said that almost all the severe protracted labours are of the above description, and may be speedily converted into a labour sufficiently natural so as to expel the child in a few hours by the efforts of the mother.

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* See our last volume.

In my immediate neighbourhood a woman died ten or twelve days after having borne a child, and in her case chloroform had been employed. It was considered by the medical attendants that the woman's death was occasioned by peritoneal inflammation, yet no particular alarming symptom appeared until the day previous to her death. Chloroform, seemingly, has been used by many practitioners in midwifery, in a similar manner to what ergot of rye was employed; for in almost every case that appeared to be tedious, the obstetrician used ergot of rye, without taking into consideration either the nature of the obstructing causes to delivery, or the properties or powers of the means used for facilitating the expulsion of the child: the consequence was, that in many instances the action of the uterus was greatly increased, but still not sufficiently so to overcome the obstruction; and thus the child was born dead from compression on the umbilical cord. Had the obstruction in a great measure been removed previous to the administration of the ergot, either it would not have been required, or if employed it would have been harmless. These fatal results, arising from the indiscriminate use of ergot of rye, have, so far as my knowledge extends, greatly lessened the frequency of its employment. And, from the very commencement of the exhibition of anæsthetic means in child-bed cases, the same blind and resolute mode of procedure has been followed as with ergot of rye; and it appears that nothing but the same kind of mischievous results will operate in arresting the hand of the undeliberative administrator of chloroform. It would appear that many practitioners never take into consideration the awful responsibility they lie under by persevering in the use of what they consider remedial means, without possessing a knowledge either of the nature or mode of operation of the medicine, or whether it be really suitable for the removal of the complaint it is intended to remedy. A sufficient proof of this statement, I think, is noticed in a contemporary periodical, when speaking of chloroform. The writer says, "I would earnestly wish all parties, both in favour of, and against chloroform (and the remark will bear on many other points), not to allow themselves to confound the post hoc with the propter hoc. I refer," he says, "to the ergot of rye, which many obstetricians condemn on account of its fancied injurious effects upon the fœtus. This imputation I do not believe to be based on solid grounds." Other accoucheurs of extensive experience, with whom I have conversed on this subject, and who hold the same views with the above author, hesitate not to acknowledge that previous to administering the ergot the children were alive, yet they were born dead; and it is no uncommon occurrence that when the pains of labour are severe, but producing little effect in advancing the child, those who hold the above favourable views of ergot administer it a few hours after the commencement of labour, and the child is unexpectedly born dead: thus showing that neither a knowledge of the effects of the operation of the means employed, nor a knowledge of the nature of the case in which the means were used, are at all understood by the practitioner.

At page 778 of the same number of the MEDICAL GAZETTE, Dr. Barnes asks, when speaking of the employment of chloroform in midwifery, "Why interfere with a natural process?" If Dr. Barnes mean by this query that there is no propriety in interfering with a labour going on without any unfavourable symptoms, either as regards the position of the child or the state of the pelvis, even although the labour may continue long and severe, yet the child be ultimately expelled by the efforts of the mother, it is evident such a procedure cannot be "a natural process." It has been already stated that every purely natural labour will terminate in a few hours, and will be effected without much continued pain; but those labours which may also terminate naturally, although of long duration, ought to be distinguished by some epithet—as protracted natural labour; for by this distinction the mind is at once led to inquire regarding the nature of the protracting cause, and how it should be removed, as well as by what means.

Now, by making a correct physiological and pathological inquiry into the nature of labours speedily terminated, as well as into the causes of protracted labours, it must occur to the careful inquirer that the nature of the causes which arrest the completion of a labour to perhaps two or three days, must be of a morbid description; and then the tedious struggle before delivery is effected could not have been "a natural process." In a labour so severe and so extended, then, the long-continued process before delivery is completed, is one of an unnatural description, arising from disease of the expulsive organs; and when such disease is removed by suitable means, as already noticed in a former number of the Medical Gazette, the restriction arising from disease will be so far removed that delivery will be effected in a few hours. The same remarks may justly apply to a statement made by Dr. Meigs, Professor of Midwifery in Jefferson College, in his communication to Dr. Simpson, Professor of Midwifery in Edinburgh, on the subject of the use of chloroform in the practice of midwifery, as reported in the Philadelphia Med. Examiner, March 1848, and noticed in the Medical Gazette, July 1848. Dr. Meigs states, "I have been accustomed to look upon the sensation of pain in labour as a physiological relative of the power of force; I have always regarded a labour-pain as a most desirable, salutary, and conservative manifestation of life-force." Again, the Dr. says, "there is, in natural labour, no element of disease." In this way of expressing themselves it is very evident that these two observing practitioners have declared their views regarding natural labours either obcurely or altogether in an inapplicable manner respecting those forms of labour in which the long and severe suffering arises from a diseased condition of the organs of propulsion only. In this last form of labour, then, the sensation of pain cannot be a physiological relative, but really a pathological relative, indicating a diseased state of the parts concerned in the propulsion of the child; and when this state is removed, by the means suited for that purpose, the labour is speedily converted into a "natural process," and the delivery is effected in a few hours, instead of extending for two or sometimes to three days. To say that "there is in prolonged natural labour no element of disease, or that it is a natural process, is quite untenable."

The following remark, expressed by Dr. Meigs in the same letter, appears to me most worthy of notice, as it proves him to be a practitioner of a correctly cultivated mind. He says, "but should I exhibit the remedy [chloroform] for pain to a thousand patients in labour, merely to prevent the physiological pain, and for no other motive, and if I were in consequence to destroy one of them, I should feel disposed to clothe me in sackcloth, and cast ashes on my head for the remainder of my days." Sentiments thus expressed by so accomplished a practitioner as Professor Meigs, should be riveted henceforth on the minds of accoucheurs, in order to remind them of the dread responsibility they lie under by their employment of dangerous means of relief in that delicate and perilous condition in which parturient women should always be considered to be until recovery has taken place. For it is very clear, that from the commencement of the use of anæsthetic means in child-bed cases, that the prescribers neither had any correct knowledge of the nature of the causes requiring the employment of means of relief, nor of the powers and properties of the means used. In the Medical Gazette for August 11, 1848, page 252, one of your correspondents states, that he is still favourable to further proceedings with chloroform in child-bed cases. I have only to hope and advise, that he will, as a responsible practitioner, consider well the sage remarks of Dr. Meigs on this subject, namely, that the employment of doubtful and dangerous means, unnecessarily, in obstetric practice, to the destruction of life, is a sin which would seem binding on the obstetrician ever afterwards to clothe him in sackcloth, and cast ashes on his head.

The same author, as well as others, seems to consider that opium and other curative means might be objected to in child-bed cases, on similar grounds with chloroform; for it has been ascertained that in operative surgery great advantage has been obtained by the employment of chloroform; and why should it be withheld in severe labours? Such views, however, are quite valueless; for the two cases are entirely different: the surgeon in amputating a leg, is desirous to save the patient the pain incurred by his cutting instruments, and he uses chloroform, not for the purpose of removing the leg, but to subdue pain during the operation. Thus the surgeon is convinced from what he knows of chloroform, that by its use he will subdue the pain, and that by his instruments he will amputate the leg. In this way we see the surgeon is well acquainted with every particular which he purposes to accomplish, which enables him to anticipate a favourabl eresult; whereas the accoucheur seems to be totally unacquainted with the nature of his case of severe labour, for the relief of which he deems the use of chloroform requisite, thus showing that he is equally unacquainted with the powers and properties of the means of relief. The skilful surgeon uses chloroform to subdue pain arising from the operation necessary for the removal of a diseased portion of the body; but the accoucheur uses chloroform to subdue pain arising from a diseased condition of the uterine organs, destined for the expulsion of the child: thus by his procedure he subdues the pain, but the disease remains, and on suspending the employment of the means of relief, the pain returns in all its violence. Thus we see the wide difference between the surgeon's case, and his views and intentions, and those of the accoucheur's. The great object of the surgeon is to save pain, while he removes the disease; whereas 'the accoucheur being unacquainted with the nature of the disease of the propelling organs which causes the pain, the latter is subdued by chloroform, while the diseased condition of the organs of propulsion, the true obstructing cause to delivery, is allowed to remain, so that dose after dose of the deleterious vapour is repeated, until occasionally injurious effects are sustained by the mother, and not unfrequently, as reported, by the child also.

Now the skilful obstetrician, who is acquainted with the nature of the obstructing causes of protracted labours, employs the well-known means for their removal—viz. opium, venesection, &c., according as each obstructing cause indicates: and thus by banishing from his mind that remorseless and blind mode of procedure by chloroform, he speedily and safely, scientifically and naturally, removes the diseased obstructing causes to the delivery of the mother.

Such is the whole secret, if secret it may be called, in the treatment of the great proportion of protracted labours with which the accoucheur is concerned; and no other mode of treatment is it at all probable will ever be advanced so effectually to limit the duration of such labours, and at the same time with any thing like the same degree of safety to the mother and her child. The causes, and the nature of the causes, which arrest the progressive and speedy advancement of the child must be known, and as these are connected with inflammation, congestion, excessive morbid sensibility of the uterine organs, and a constipated or loaded state of the bowels, any ordinary observer, by careful examination, may make himself sufficiently acquainted with them; and the means for the removal of such ailments have been so well known for hundreds of years, that neither doubt nor difficulty can well happen to their safe and successful employment. From the consideration that these facts may be easily put to the test of experiment with all manner of safety, one's mind recoils from the very idea that there are to be found rational and responsible individuals trifling away their time in uselessly experimenting with a deleterious and poisonous drug, at the risk, and even the cost of life, and at the same time selecting for their victims the wives of their bosoms.

Paisley, Sept. 9, 1848.

MEDICAL GAZETTE.

FRIDAY, SEPTEMBER 22, 1848.

THE Medical Officers of Poor-Law Unions should not lose sight of the fact that, towards the close of the late session of Parliament, an objection was taken to the amount expended in medical relief, by one of the sturdy reformers of the day! Mr. Hume, who complained that this charge, which was £40,000 in 1846, had been actually increased to £85,000, can be but little acquainted with the services rendered by the medical officers of Unions, or with the loud and just complaints of the inadequacy of the present scale of remuneration. His objection to the estimate arises from his contemplating the amount in the aggregate, and probably from his supposing that the House of Commons had gone far enough in 1846 in paying these hard-working members of the profession at the lowest possible rate. He would have shewn himself a better friend to the profession and to the poor, if he had not placed these two sums in contrast without stating that there was still room for an increased remuneration. Economical reformers are, however, very apt to take figures without reference to facts, and this appears to have been Mr. Hume's plan on the present occasion. It is satisfactory to know that the hon. member took nothing by his suggestion. Lord Ebrington reminded the Committee that the subject of Poor-law medical relief had been already under the consideration of the House of Commons. He stated truly that the greatest complaints had been made of the inadequate remuneration afforded to the medical officers of Unions; and, as only one-half of the charge for such officers was borne by the State, an increase of the estimate proved that a corresponding charge had been made on the rate-payers themselves. These little occurrences serve to shew that men who are called Liberals, do not always take a *liberal* view of questions intimately connected with the interests of the medical profession.

As we are upon the subject of Poor-law medical relief, we invite our readers to consider the appeal made by Mr. Martin, at p. 435 of the last number of our journal.

AMONG the various aspects in which the Slave-trade question may be viewed, there is one in which it is of some interest to the medical profession, as it closely concerns the value and importance of Medical Statistics. We allude to the alleged increase in the rate of mortality among the crews of English vessels stationed off the pestilential coast of Africa. According to one set of statisticians, the increased mortality is frightful; while, according to the inferences of another set, the deaths are not more numerous than among an equal number of men engaged in the Channel service! Such a difference of opinion among men who contend that they derive their information from official and other authentic documents, is a strong confirmation of the assertion of Dr. Johnson, that there is nothing so difficult to ascertain as "a fact." This question should be entirely dissevered from the political bearings of the slave-trade, and it is in this point of view that we propose to consider it. It is unfortunate that it cannot be discussed in either House of Parliament without becoming mixed up with numerous irrelevant subjects, and a plain medical fact is thus distorted to serve the purposes of two opposite parties.

In an early part of the year, certain returns on the state of health of the squadron employed off the coast of Africa were laid before the House of Lords; and, in reference to these, Lord Aberdeen remarked—

"With respect to the health of our squadron, there is no doubt that on this subject the greatest exaggeration and misrepresentations have taken place. Undoubtedly the climate and swamps on the coast of Africa are injurious to health and life, but with *due precautions* the climate on the coast of Africa is not at all more unhealthy than any other tropical climate. The return on your lordships' table shows that the loss of life has been exaggerated to a degree scarcely credible; and, if due precautions are taken, the amount of deaths occurring is not greater, as I have before stated, than might be expected in any other tropical climate. Taking the year 1847, if the last six months should not prove more fatal than the first six months (the returns for the latter period being the latest received), the loss in the squadron in the course of the year *would be considerably less than two per cent. for the year* (we understood). This is not such a loss as should make the country abandon efforts having so important an object in view. I may mention that, from the account of a vessel employed in this service, which has recently arrived in our ports, it appears that the health of the squadron off the coast of Africa is such as need not give rise to uneasiness. The noble earl here read the following account, dated the 14th of November, from Portsmouth:—'The Waterwitch, 8, Commander T. Francis Birch, arrived at Spithead yesterday morning from the west coast of Africa station, where she has been engaged in the suppression of the slave trade, chiefly on the Kabenda station. The squadron generally were exceedingly healthy. The Waterwitch has been very healthy all the time she has been out, having lost only one man by sickness on board.' The loss of only one man through sickness on board during a period of three years, can, I think, give rise to no great uneasiness. Without due precaution being taken, a similar loss might occur in the Channel; but, if such sickness can be prevented by due precautions, we have a right to expect that they will be adopted. Therefore I contend, both from the return on your lordships' table and from general information of the state of the squadron off the coast of Africa, that *there is nothing serious to be apprehended on the score of unhealthiness of the climate*. Before the squadron was augmented to the present amount, I applied to officers the most experienced, and the best entitled to give an opinion to carry weight with the Government, for information on the subject, and every one of them to a man declared that, with due precaution, no apprehension need exist with respect to the health of the squadron. It is true that an unfortunate epidemic occurred on board of a single vessel; but it was confined there, and did not extend to other ships of the squadron; consequently, it could not be held that the squadron generally was unhealthy because of that single instance of an epidemic prevailing in one vessel."

This statement was confirmed by Lord Auckland, who said—

"The last return from the commander on that (the African) station exhibited fewer deaths, fewer cases of disease, and more captures than in any former year. The success that had attended this increased attention to the health of the men proved that, whatever might be the unhealthiness of the mouths and banks of the rivers, the sea on the coast of Africa was not more unhealthy than any other sea in a tropical climate. The deaths had been reduced from five per cent. in 1846 to two per cent. in the past year, and the number of invalids had decreased from ten per cent. in 1845 and 1846 to five per cent. in 1847; by a recent order of the Admiralty, no ship *was now allowed to remain on the African station for more than two years.*"

The inference to be drawn from these statements is, that the coast of Africa, contrary to what is generally believed, is a very healthy climate. The mortality among the crews of our vessels is very little greater than among civilians at home! It would appear, however, that in order to ensure this salubrity, certain precautions are required; and although one ship is stated by Lord Aberdeen to have lost only *one man in three years*, we are informed by another noble lord that, by a recent order of the Admiralty, no ship is now allowed to remain on the African station for more than *two years*. We are at a loss to reconcile these conflicting statements, or to comprehend why, when the annual deaths are considerably less than *two per cent.*, the crews are to be ordered home from these salubrious waters to die at a higher figure of mortality in the pestilential atmosphere of Great Britain! The first idea which occurs to us is, that the advocates of the healthiness of the African coast prove too much, and that they have probably been misled by some trifling mistake in the figures. A great statesman has said that there is nothing so fallacious as figures, except facts; and daily experience as to the mode in which medical statistics are handled by men whose minds can grasp only a few of the elements which are necessary to a correct calculation, proves that there is much truth in this saying. The stoutest controversialist is sometimes knocked down by a decimal fraction, and he does not recover himself, or perceive the incorrectness or irrelevancy of the arithmetical argument, until it is too late to confute his adversary.

We need hardly say that general experience is most decidedly against this attempt to prove that the climate of the African coast is less fatal to human life than that of England: and the order of the Admiralty as to the limited service, is a sufficient proof that the argument respecting its alleged salubrity must be unsound. The fact is, a question of this kind cannot be determined by taking the mortality in one ship for three years, or in half a dozen ships for six months. In this way we may deduce the most erroneous conclusions, and mislead those who are inclined to take ready-made statements in preference to analysing the facts for themselves. In the forcible language of a contemporary,* it is necessary to remember "that the average ratio of mortality on the coast is produced in part by violent and sudden epidemics, which do the work of death with such rapid destructiveness as to compensate the comparative impunity of a whole season. Precisely the same sanguine conclusion as that drawn by Lord Aberdeen was actually expressed by a Lord of the Admiralty on a similar occasion three years ago, when, in a few short weeks, came the fatal plague of the Eclair, which carried off 74 lives in a single vessel at a blow! The ratio of mortality was similarly affected in 1830, 1837, and 1841: thus proving that at any moment a Waterwitch may become an Eden, and that the insidious venom of the coast is incessantly at hand to destroy, by an hour's blight, the successful caution of the year. This, too, is the identical peril which cannot be lessened, like every-day hazards, by the exertions of science and prudence. To ascertain the actual facts in such a case as this, the obvious course is to take an average of years; and this we are enabled to offer, together with a comparative statement of the mortality on the other stations referred to, in a form so plain, palpable, and authentic, that its evidence must surely set at rest all such deductions and inquiries as those laid before the House of Lords. It is from a formal report, compiled from official sources, and by authority, and the table will be found in its 177th page.† From the year 1825 to the year 1845 the average annual ratio of mortality, *from disease*

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* *Times*, February 24th, 1848.

† Report on the Climate and Diseases of the African Station.

alone, in the African station, was 58·4 per 1,000 of the mean force employed; a fact which will be better comprehended by looking at it in juxta-position with the returns from other stations of various degrees of salubrity, computed on the same principle.

South America . . .	7·7
Mediterranean . . .	9·3
Home	9·8
East Indies	15·1
West Indies	18·1
Coast of Africa . . .	58·4

When we add, in the words of the report, that even this return is not to be supposed as conveying "any adequate idea of the permanent loss of health," we conceive this part of the question may be taken as beyond dispute.

It would require some courage to call this plain statement of facts, based on an authentic report, a great exaggeration and misrepresentation; and unless the facts be denied, the salubrity of the African coast may be treated as a ministerial phantasmagoria. All experience tends to show that the crews of our vessels are there yearly decimated; and it has become a serious question whether, by the maintenance of the system, we do not lose more valuable lives among our own men than we rescue from the hands of the slave-dealers.

WE have repetedly called the attention of those in authority to the very defective working of the Act for the Registration of Deaths. When the cause of death is not determined, it is clear that the real object of the Registration Act, which is to register the *causes*, and not the mere *number*, of deaths, is practically defeated. The system has been tried for some years, and is proved to be an utter failure. To say that it is better than no registration, is no excuse for the perpetuation of defects which a vigilant superintendence might remove. The machinery of the new Public Health Act might be easily brought into operation for improving the Registration Act; and the work which is now so negligently performed by coroners and non-professional registrars might be transferred to the Officers of Health. Without some alteration in the present system, there can be no security to life: the criminal, as it has been proved by recent disclosures, may perpetrate his crime in secresy, and murder by poison may be registered as death from natural causes. We have already endeavoured to show that the remedy for the prevention of secret murder lies not in increasing the number of coroners' inquests, but in rendering the inquiries more efficient. So long as deaths can be registered without medical certificates, and so long as, in cases of sudden death, medical certificates are granted without a post-mortem examination of the body, the Registration Act is reduced to a nullity. We are glad to have the corroborative testimony of so able an inquirer as Mr. Rumsey, of Gloucester, in support of our views on the necessity for an improved system of registration and of conducting inquests before coroners. We have elsewhere reprinted extracts from his recent report to the Registrar-General *; but we reserve for this place his remarks on the defects in the Registration Act, and on the mode of conducting coroners' inquests.

> "I beg leave to remark on the large proportion of *deaths registered in this district without any medical certificate.* The following table shews the numbers of certified and non-certified deaths, and of coroners' inquests, in the Gloucester districts during the year 1847:—

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* See page 513.

	Certified.	Non Certified.	Verdicts.	Total.
City & Suburbs	353	156	27	536
Rural Parishes	27	88	6	121
	380	244	33	
Public Institutions . .	94		16	110
				767

" Setting aside the public institutions (where the cause of death is certified by the medical officers), and the coroners' inquests, no fewer than 244 out of 624, or 39 *per cent. of the deaths, are registered on the mere authority of survivors or nurses.* Hence we find deaths reported as from 'stricture in the windpipe,' and 'rheumatism in the bowels.' It is needless to observe that such returns convey no authentic information, and afford no valid security to the public.

"The results even of *coroners' inquests* are scarcely more satisfactory. Setting aside, as before, those held in public institutions, where the cause of death is duly explained to the coroner and jury by a competent medical officer, it appears that in 13 out of 33 (39 *per cent. again*) the verdict was either 'died by the visitation of God,' or 'died from natural causes,'—a rude method of settling a difficult question which judge and jury were alike incompetent to solve, and unwilling to refer to medical authority. Notwithstanding all that has been urged about the invaluable protection afforded to the community by the ancient institution of coroners' inquests, it appears that of the deaths subject to this mode of investigation (and these requiring, from their suddenness, or seclusion, or violence, the most accurate and scientific inquiry), an equal proportion remained in this district without any satisfactory information respecting the *cause* of death, as of ordinary cases reported only by the District Registrars.

" In at least two *non*-certified deaths, it is obvious that either an inquest or medical evidence was most necessary: one stated to have been from 'inflammation caused by a scald,' another from 'natural causes,' on the mere information of an individual, without the verdict of a jury.

" The extreme importance of not depending on the unauthorised statements of parties, who may have an object in concealing or mis-stating facts, has been urged to me by one of the District Registrars, who assures me that he discovered two instances last year in which the deaths of infants, born alive, were represented to him as 'still births.' In crowded and neglected localities, where life is at a low value, the consequences of the non-requirement of medical certificates may be readily imagined. The accumulation, from all quarters, of facts and arguments, proving the necessity for a competent inquiry and report, *in every instance*, as to the fact and cause of death, will, I trust, under your management of this department, aided by the operation of the Public Health Bill, lead to the adoption of an improved system."

Such a statement requires no comment; it is based on incontrovertible facts, and it most strongly confirms the remarks which we had recently occasion to make on the letter of a metropolitan coroner, in which it was proposed to increase the number of inquests, when it is proved that a very large proportion of those which are at present held leave the *cause* of death *entirely unexplained!* In our view, the registration of deaths should take place only under the supervision of the Officer of Health, to be appointed under the new act. It should also rest entirely with this functionary to determine in what cases a post-mortem inspection should be made, and when an inquiry should take place before the coroner. Some objections might be taken to the efficient working of this plan, but with a conscientious and well-qualified Officer of Health, we should not have to complain of the gross abuses which are daily brought to light under the present system.

Reviews.

A Dictionary of Practical Medicine; comprising General Pathology, the Nature and Treatment of Diseases, Morbid Structures, &c. By James Copland, M.D. F.R.S. &c. Part XIII. London: Longmans. 1848.

The publication of another part of this excellent work, after a comparatively short interval, is a most favourable augury for its early completion. This part, which is the fourth of the third volume, extends from Poisons to Rabies, and comprises numerous subjects of great practical interest. There are several circumstances connected with a work of this magnitude and extent, which cannot fail to attract the notice of a reader. The first of these is, that any single, unassisted author should be able to write so well upon subjects differing so widely from each other as those contained in this Cyclopædia; the second is that the space assigned to each subject should be so fairly proportioned; and the third, that the author should contrive to keep his object—namely, practical medicine—constantly in view, so that no reader can justly complain that the work does not strictly correspond to its title.

Of the article on Poisons we had occasion to speak in our notice of Part XII. The few pages here devoted to its completion, include chiefly a description of the animal poisons. In reference to the poison of the *viper*, Dr. Copland says—

> "The activity of the poison of the viper, and indeed of all serpents, depends upon a variety of circumstances. When long confined, or after the animal has bitten frequently in rapid succession, and during cold seasons, when it loses its activity, the poison also loses its virulence more or less, owing either to a scantier, or a weaker, or an exhausted secretion. Serpents are most poisonous in warm, humid, and malarious climates, and are there most numerous. In those parts of Africa, which were chiefly of this description that I visited, accidents from them were very frequent; but, owing to my residence at any place being short, I did not succeed in obtaining any of the poisonous species. The most dangerous bites are inflicted on naked, or imperfectly covered parts, particularly the extremities; and the more severe and virulent, the more rapidly are the symptoms developed. The poisonous properties of the fluid contained in the reservoir do not cease with the animal's life; but may continue, like some other poisonous fluids, as that of small-pox, &c., even when the fluid is dried and kept for some time. Professor Mangili has demonstrated that it may be swallowed without injury. The *fetish-men*, or native doctors in Africa, have in my presence, when sucking the wound made by a poisonous serpent, swallowed the fluids thus drawn from the wound to show their powers and invulnerability." (p. 435-436.)

Dr. Copland, as we have already stated, has proposed a new classification of poisons; and a summary of the poisons belonging to the various classes on his arrangement is appended to the article. The principal objection to it is, that it is not sufficiently simple, and some of the classes so merge into others that the boundary between them is indistinct. The bibliography of medical literature, in reference to poisons, covers nearly two pages of very small type, and will be found a most valuable source of reference by toxicologists.

In treating of Pregnancy, the author thus discusses the debated question of *menstruation occurring during pregnancy*:—

> "*Menstruation during pregnancy*, or rather a periodical discharge of a sanguineous fluid from the vagina, has been occasionally observed. This discharge may occur once or oftener during utero-gestation, and after irregular intervals, but it most frequently takes place at the menstrual periods, and, in some instances, it returns for three, four, five, or six months, or even for the whole period of pregnancy. Drs. Denman and Hamilton have doubted the occurrence of these discharges—a scepticism the more remarkable considering the great experience of these physicians, and the frequency of the phenomenon according to the observation of very eminent practitioners. Although I have never been engaged in the practice of midwifery, yet I have been consulted in two cases, in which this discharge was stated to have occurred regularly during four or five successive menstrual periods; and not in one pregnancy only, but in each of several occasions of utero-gestation. Neither of these patients had ever had an abortion. The discharge was represented to have continued from three to four days, to have become paler than usual after the second day, and to have passed into a moderate leucorrhœa. It does not appear to be attended with any inconvenience to the patient beyond increasing aching of the back and loins. The growth of the child is not affected by it;

although, judging from the instances which I have seen, the constitution is rendered more delicate; so that the aphorism of Hippocrates, "that the children of women who menstruate during pregnancy cannot be healthy," appears partly true. The discharge probably proceeds from the vessels of the cervix uteri and vagina, in consequence of the more than usual vascular determination to the uterine organs during pregnancy, the periodic recurrence being the consequence either of ovarian excitement and influence, or of habit. (p. 450.)

A very large space is given in this part to diseases of the puerperal state, especially to PUERPERAL FEVERS. The connection between *puerperal fever* and *erysipelas* calls for especial notice.

"Dr. Holmes notices, in his instructive memoir, that Dr. S. Jackson went from a case of gangrenous erysipelas which he had been dressing, to the first of the series of cases which took place in his practice; and that a Dr. C., who delivered seven women in succession, who were all seized with puerperal fever, had made, on the 19th of March, the autopsy of a man who died after a very short illness, from œdema of the leg and thigh followed by gangrene, and the first of these seven cases was delivered by him on the 20th, the following day. When making the autopsy on the 19th, Dr. C. wounded his hand, and was confined to his house, after delivering the first case on the 20th, until the 3d of April, and on April the 9th he attended the second case of fever. Several cases of erysipelas occurred very soon afterwards in the house where the autopsy of the man just mentioned took place. There were also many cases of erysipelas in town at the time of the puerperal cases. The nurse who laid out the body of the third puerperal patient was taken on the evening of the same day with sore throat and erysipelas, and died in ten days. The nurse who laid out the body of the fourth case of puerperal fever was seized on the day following with symptoms like those of that case, and died in a week, without any external marks of erysipelas.

"Another physician, who had a series of five successive cases of puerperal fever, states, in a letter to Dr. Holmes, that for two weeks previously to the first case of puerperal fever, he had been attending a severe case of erysipelas, and the infection may have been conveyed through him to the patient, as he admits; but, he asks, 'Wherefore does this not occur to other physicians, or to himself at other times; for he has since had a still more inveterate case of erysipelas, but he has had no disease in any of his midwifery cases?' It would be culpable in him to make the experiment, or to repeat the risk, without due precautions. Inoculation with the matter of small-pox or cow-pox does not always communicate the disease; indeed, it often fails of doing so; but no one now disputes the contagious nature of the virus inoculated. Dr. Merriman, an able and cautious practitioner, mentioned (*Lancet*, 2d May, 1840), that he was at the examination of a case of puerperal fever at 2 P.M. *He took care not to touch the body.* At 9 o'clock the same evening he attended a woman in labour; she was so nearly delivered that he had scarcely anything to do. The next morning she had rigors, and died in forty-eight hours. Her infant had erysipelas, and died in two days. A patient whom I was attending in the hospital, in 1828, was seen by a lady; and, whilst listening to her faint voice, her breath was felt by the lady, who was stooping over her. This lady was the following day attacked with erysipelas in the face." (p. 509.)

These facts deserve the serious attention of practitioners. That there is some close connection between the malignant form of puerperal fever and erysipelas, appears to be now established on indisputable evidence. Our author considers it to be clearly proved that some of the series of cases of the more malignant states of puerperal fever have been produced by an infection originating in the effluvia proceeding from erysipelas, or by the contagion of the matter, or contaminating material produced by erysipelas. From the opportunities which Dr. Copland has had of observing this disease, during a period of nearly forty years, he draws the following inferences, and suggests certain precautions:—

"That lying-in hospitals and wards have been established and supported on mistaken views as to the benefits they confer on individuals and the community; that the charity would be bestowed more safely to the objects themselves and to others contingently, if it were so administered as to afford the required aid, to increase the comforts, and to improve the sanitary conditions of females in the puerperal states at their own places of residence.

"If these institutions be still continued and supported, as introductions to midwifery practice, or for the doubtful benefit of the recipients of a certain kind of charity, the obstetric physicians and surgeons attached to them ought not to attend those cases of puerperal fever, or of erysipelas, which so frequently break out in the wards of such institutions; for by doing so, they convey the poison from one patient to another, both within and without the institution. In all such circumstances, the consulting physician or surgeon to the institution, who, as in my own case, should not be engaged in the practice of midwifery, ought to take charge of these cases, which should, immediately upon their attack, be removed, with due care and precaution, into a separate ward, provided for the reception of such cases, and situated without the walls of the hospital, but apart from other houses.

"A physician or surgeon engaged in obstetric practice, upon the occurrence of puerperal fever in any of his cases, should either explain the matter to her friends, and call in a physician not engaged in this practice, to whose care she ought to be committed; or he should relinquish the care of puerperal females during his attendance on cases of this fever, and even of erysipelas; or he should change all his clothes, and carefully wash his hands, after seeing cases of either of these maladies, before proceeding to a puerperal female.

"An obstetric practitioner should not make an autopsy of a case of puerperal fever, or of erysipelas, or of peritonitis, or of diffusive inflammation of the cellular tissue, or of the disease occasioned by the necroscopic poison, nor even attend, or dress, or visit any of such cases, without immediately afterwards observing the precautions just stated, and allowing two or three days to elapse between such attendance and midwifery engagements, or visits to puerperal females.

"It is the duty of obstetric practitioners attached to public institutions to prevent, as far as possible, the spread of this pestilence by midwives, nurses, or other assistants; and, as soon as two or three cases occur in succession, or other causes of suspicion present themselves, to take the most decided measures against the extension of contagion. Whatever indulgence may have heretofore been extended to those who have been the ignorant causes of the misery disclosed by the above statements—which convey but a small part of what has occurred in recent times—cannot now be expected, and ought not to be granted; for the practitioner is now too well informed, or, at least, the sources of information as to this matter are too open for him to be longer ignorant, that this most deadly of our domestic pestilences is conveyed from the infected to the healthy chiefly and most frequently by the accoucheur, when it occurs without the walls of a lying-in hospital; and that ignorance of, or inattention to, this fact, already not unknown to the well-informed part of the community,—this flagrant neglect of what we owe to those who confide in us, and to society in general, to whom we must look for consideration and esteem,—will be no longer viewed as a *misfortune*, but will be more justly considered a *crime* of no small magnitude." (p. 509-510.)

We need hardly say that these suggestions have a very important bearing on practice. The whole of this article appears to us to have been most carefully prepared.

The part concludes with an essay on RABIES, which, however, is not completed in the present number. We shall select from this one or two extracts on subjects which have formed, and still form, *quæstiones vexatæ* among veterinary pathologists and physiologists. The first refers to the *stage of incubation* of the poison of *Rabies*.

"*Stage of incubation—the latent period.*—In this, the first stage, the symptoms of disorder may be either wanting, or so slight as to escape observation. The wound, by which the distemper is usually inoculated, whether dressed or neglected, generally heals up as kindly as similar injuries; if indeed not more rapidly than they, leaving a cicatrix which differs in no respects from those usually following such injuries. In some cases, however, pain has been felt in the cicatrix a considerable time after the accident, and in a few a slight fever, or a rapid pulse, has been remarked to continue from the receipt of the injury to the outbreak of the distemper. The *duration* of this period is seldom shorter than forty days, or longer than two years. Undoubted instances have, however, been adduced by M. Trolliet, whose experience of this disease has been most extensive, in which the characteristic symptoms appeared as early as the eighth day, and he even quotes instances of their occurrence as early as the day following the injury. That the duration of this period sometimes extends to six or nine months has been satisfactorily proved. Apparently authentic cases have been adduced of a much longer time. J. Hunter, R. Hamilton, and S. Bardsley, have endeavoured to show that all credible cases on record have occurred before the eighteenth month; whilst other authors have contended for even a longer period. Dr. Urban states confidently that he has known cases to occur as late as twenty months, and four years after the injury; and similar prolonged periods have been adduced by others. In these, the question is, whether the disease has been actually inoculated at a period so far back, or has there occurred a re-inoculation at some intervening period? The solution of the doubt as to the possible duration of this period is one of some importance as respects the fears of a person who has sustained this most distressing injury.

"The circumstances which, in man especially, seem to shorten the duration of this period on the one hand, and to prolong it on the other, have not been fully inquired into. It is not improbable that a small dose of the poison communicated to the wound, will take a longer time to produce its effects upon the constitution of the injured person, than a stronger or larger dose—that the rapidity of the effect will have some relation to the virulence or quantity of the inoculated poison, and the constitutional powers of the subject. In cases, however, where symptoms of hydrophobia, with spasms, &c. follow immediately or very soon after a bite, a question suggests itself, are the symptoms actually those of inoculated rabies, or are they merely induced by the nature of the local injury, by the laceration of a nerve, by the puncture of a tendon, or by the fright or mental anxiety consequent upon the accident? This topic requires only to be kept in recollection in relation to this part of the subject: fuller consideration will be given to it in the sequel. The causes which more especially tend to hasten the development of the distemper after inoculation, are debility of constitution, previous ill-health, the fright experienced at the time, the fear and anxiety afterwards entertained, the depressing passions, venereal excesses, exposure to the sun's rays, and injuries received on the cicatrices. Whilst, on the other hand, a vigorous constitution, and absence of all dread, and of all causes of mental depression or of bodily exhaustion, probably either prolong the period of incubation, or successfully resist the influence of the poison, especially when the quantity inoculated has been small." (p. 566.)

In another paragraph we have an analysis of the disputed question whether rabies does or does not appear in a sporadic form in the animals subject to it. Our author is inclined to the opinion that the disease only appears in animals as a result of transmission by inoculation; but he candidly admits that its origin is still involved in much obscurity.

"*Are certain species of the canine and feline races, as the dog, the wolf, &c., capable of generating the malady* de novo, *without previous inoculation or infection, and of communicating it afterwards?* The generation of this disease *de novo* by the animals which appear to be most frequently affected by it has been believed in by the great majority of writers, yet I do not consider the matter to be at all determined. Experiments have been made by Dupuytren, Breschet, Magendie, Bourgelat, and others, on dogs and cats, these animals being placed in those circumstances in which they have been said to originate rabies, without this disease having appeared in a single instance among them. This point is most difficult to be determined; and probably a just conclusion respecting it will be more likely to be arrived at by careful observation of facts and by extensive experience, than by experiments, the failure of which can prove nothing, whilst what may appear as a conclusive result will admit of cavil. The late Mr. Youatt, a well-educated, able, and candid observer, and possessed of the greatest experience, remarked to me that he believed that the disease rarely, or perhaps never, originated *de novo*, but in contagion. It has certainly not existed for ages in certain insulated or secluded places, until introduced by inoculation on well-ascertained occasions, whilst it has never been observed in other places similarly circumstanced. The matter deserves further investigation, as serving to arrest the propagation of this distressing malady.

"Those who believe that rabies may occur spontaneously in the dog, wolf, or cat, furnish no precise information on the subject; and it certainly cannot be proved that, when it does appear in one of these animals, it is not the consequence of inoculation or infection at some previous period. The long time often required for the development of the disease, after undoubted inoculation, and the possibility of its being communicated otherwise than by inoculation—by the contact of the virus with a mucous surface—serve to render the proof of actual communication by contagion a matter of difficulty. Those who contend for the spontaneous origin of the disease, suppose that protracted thirst or hunger, extreme heat, violent excitement of anger, the sexual heat, &c., severally, or variously associated, may develope the malady, independently of contagion. Still these are merely suppositions, and are unsupported by positive evidence. M. Trolliet states that the months of January and August, the coldest and the warmest, furnish the fewest instances of rabies; and that in March and April the greatest number of wolves are rabid; and that in May and September the greater number of dogs. Several writers have contended that the malady is very rare in very hot and very cold climates, whilst it is most frequent in temperate countries; but much uncertainty and even obscurity, envelope the subject of the spontaneous origin of this terrible distemper." (p. 575.)

The same question has been raised with regard to the specific diseases of infancy—namely, small-pox, measles, scarlet-fever, and hooping-cough; as well as with respect to syphilis. It cannot be supposed that these diseases have existed *ab origine mundi;* and if they have had an origin from terrestrial causes, coupled with morbific states of the body, there is nothing to prevent the recurrence of these conditions. Admitting it as proved that no dog now becomes affected with rabies except by inoculation from another dog labouring under the disease, we cannot deny the possibility of a sporadic origin, unless we are prepared to assert, either that the disease was imparted to the canine species at its creation, or that the (unknown) conditions which once contributed to its production can never by possibility recur. The first of these two propositions will hardly be maintained, and we know of no reasonable ground by which the second can be supported. We are, therefore, inclined to infer, that what has once probably had a sporadic origin may again have a similar origin.

The subscribers to this work will find that they have in this number another valuable addition to their libraries, and we hope before long to have occasion to announce the publication of another part of this most useful Dictionary.

The Periodoscope, with its application to Obstetric Calculations, and the Periodicities of the Sex. By W. TYLER SMITH, M. B. Lond. Obstetric Lecturer in the Hunterian School of Medicine. 8vo.. pp. 47. London: Churchill, 1848.

ANY detailed description of the ingenious instrument here devised by Dr. Tyler Smith, for determining numerous important questions connected with pregnancy and parturition, is unnecessary, because we feel quite sure that it will be sooner or later in the hands of most obstetric practitioners. The object of the printed diagram is to save the practitioner the trouble of making calculations based upon rules which are for the most part conflicting with each other; and Dr. Smith has so well managed his periodoscope, and the accompanying explanation, that it will be equally serviceable to all practitioners, whatever views they may entertain respecting menstruation, conception, and the duration of pregnancy. The few pages which accompany the periodoscope are explanatory of its use. The instrument plainly sets forth, without any preliminary arithmetical calculation, the period at which abortion and premature labour may take place, and the dates to which gestation may be protracted. One singular feature is, that the study of the periodoscope will be as serviceable to pregnant females as to their medical attendants. It will teach the former the necessity of observing, at certain epochs, hygienic rules, which the latter often endeavour in vain to enforce. In legal medicine this little work will have a most useful application in reference to suits of contested legitimacy. The periodoscope will serve to correct immediately those blunders which are so liable to occur from mixing up calendar with lunar months; and it will enable a barrister to test the accuracy of the calculation made by a medical witness respecting the duration of pregnancy. We anticipate for the work that which it deserves for its novelty, ingenuity, and utility—namely, a wide circulation. It should be in the hands of all medical men who practise midwifery; of those married females who are desirous of avoiding the perils which, through incaution and imprudence, often attend the pregnant state; and of all lawyers, who are likely to be engaged in suits involving questions relative to legitimacy, paternity, affiliation, and adulterine bastardy. Like the other medical publications of Mr. Churchill, this work is most creditably got up. In another edition, the only point which we would suggest is, whether it might not be published in a small pocket form.

The Hand phrenologically considered; being a Glimpse at the relation of the Mind with the Organization of the Body. 8vo. pp. 78. London. 1848.

THIS is a strange attempt to make something out of nothing. To endeavour to revise chiroscopy in the nineteenth century required a large amount of courage; accordingly the author of this new revelation has contented himself with some vague generalities respecting variations in the form and structure of the hand, as affected by age, sex, temperament, *mental tendency*, and habits. Two-thirds of the book have really very little reference to the title. It is only at page 54 that the author begins his subject; and we are soon plunged into a mass of assumptions, which daily experience enables us to contradict. It is not to be denied that the hand, like other parts of the bodily structure, is modified by the habits and occupation of the individual; but the *phrenological* relations have yet to be proved. The writer appears to take these for granted. Hands, like noses, are subject to infinite variation; and in our opinion it would be just as reasonable to base phrenology on nasology as on chirology. Indeed, if we mistake not, one ingenious writer has lately made out a better plea for the nose, as indicative of intellectual qualifications, than the compiler of this essay has for the hand. The ears and feet are still left open to any ambitious candidate who is desirous of acquiring some notoriety by working out the relation of the mind with the organization of these useful appendages.

Correspondence.

THE RIGHTS OF PHYSICIANS AND GENERAL PRACTITIONERS.

SIR,—Having read the Report of the Council of the National Institute on the medical reform question, I request permission to offer a few remarks on that production.

It is truly stated in the preface (p. 5) that "the most important feature in the recent proceedings in medical affairs is unquestionably the calling of a CONFERENCE, composed of representatives of the Royal College of Physicians, the Royal College of Surgeons, the Society of Apothecaries, and on the part of the General Practitioners of the National Institute of Medicine, Surgery, and Midwifery."

Mr. Guthrie professes not to know what a general practitioner is; I am in the same predicament Is it a person who practises homœopathy, hydropathy, mesmerism, phrenology, astrology, and other curious arts?

Medical practitioners must be either physicians, surgeons, or apothecaries; if they practise the two latter branches conjointly they are surgeon-apothecaries, and under this name should they be incorporated, if they have a charter at all, which is perfectly unnecessary. Most of these gentlemen, if not all of them, already belong to, or are members of, a chartered body: what they ought to aim at is, surely, a reformation of their respective bodies.

Whatever may be said of the matter, the National Institute is a self-constituted body, without legal recognition, who are attempting, seemingly, to obtain the sole power of medical legislation, and endeavouring to subject to their domination practitioners of higher professional rank than themselves.

As to the conference itself, there is something ludicrous in it. It consisted of the heads of three legally recognised bodies, with the addition of a fourth party sent there by certain individuals who already formed integral parts of two out of the three recognised bodies. These last gentlemen, therefore, must have had a three-fold preponderance in the conference. As surgeons, they were represented by Mr. Travers; as apothecaries, they were represented by Mr. Bean; and Mr. Pennington was deputed to act as a principal in the conference. It would appear strange if, in the House of Peers, Lord A. should give his vote personally, and also have another vote for the proxy which he had deposited with Lord B.

Before any step is taken in medical legislation, the precise grievances it is sought to remedy should be pointed out, and the methods enumerated by which they are to be remedied.

What has the apothecary to complain of? Has he not the power of undertaking the sole management of diseases, to the entire exclusion of the physician, for as long a time, and to as great an extent, as the patient will consent? Has he not the power to set broken bones and reduce dislocations, without any interference of the College of Surgeons, even if he does not possess their diploma? Can he not dispense medicines to his own patients, and sell them to those who are not his own patients? Have not the apothecaries unlimited power of practising every branch of the profession, with the additional advantage (optional, of course,) of joining with it a trade, and of being entitled to obtain payment of their bill of articles supplied as "℘ invoice?" Is anything more required? Yes; the power of the associated members to legislate for all the various grades of the profession, and to subject every individual of it to their exclusive domination!

It appears to me that if any party has grievances to complain of, it is the physician. He is encroached upon by the apothecary, who professing, and perhaps truly, to be better educated than his predecessors, thinks a physician a perfectly useless appendage in a sick room. The *pure* surgeon hesitates not to undertake the management of purely medical cases, not requiring in the least degree whatever, surgical aid. Whilst thus pressed upon on every side, he never retaliates by setting a broken bone or reducing a dislocation, or by dispensing medicines even to his own patients. He remains a quiet sufferer. I see no remedy proposed in the contemplated charter for his grievances.

It is stated in the preface, p. 8 (21), that the College of Physicians had "assented not only to the formation of the new body, but to every measure which, in the opinion of the Conference, is calculated to insure its efficiency and permanency, reserving to itself its own rights only as respects the *title* of

Doctor in Medicine." Yes, and a barren title it will be, when, as must necessarily happen if the charter is obtained, the sphere of the physician is so greatly curtailed, or, more properly speaking, annihilated.

If a person registers as a physician, he is allowed to practise in *his own* department of the profession; if he registers as a general practitioner, he may practise in *every department*.

To enable any one to register as a physician, he is to be examined by the president and censors of the College of Physicians, but it must be in the presence of a person deputed by the apothecaries, if they choose to send one.

Ιατρος.

September 1848.

*** Our correspondent is, we think, a little premature in his anticipation of the injury likely to be inflicted on physicians by the incorporation of the general practitioners. He must take the rights and privileges of physicians from their charter, the terms of which are not yet finally settled. The designation of general practitioner is, we admit, most unfortunately chosen. It has nothing professional about it, and might, with equal reason, be applied to attorneys who practise in all the courts.

Medical Intelligence.

THE CHOLERA IN SYRIA.

Aleppo.—Letters from Damascus, of the 2d August, announce that the ravages of the cholera at Aleppo have been very severe. It is alleged that one-fourth of the population of the city has been cut off by the disease. The streets are deserted: the bazaars closed, and those of the inhabitants who had the power have fled into the adjoining country. When the cholera first appeared, the deaths were from 300 to 350 daily. The attacks are now reduced to about 40 daily, and the recoveries are numerous. This scourge appears to leave one city only to break out in another. When it had abated at Aleppo, it broke out at Hama, where the deaths are now 20 a day. Its appearance in Damascus is expected daily, and there is a general panic among the inhabitants.

PROGRESS OF THE CHOLERA ON THE CONTINENT.

The German papers contain returns of cases of cholera from the following places:—Berlin, the 8th inst.; Stettin, the 5th; Magdeburg, the 9th; Vienna, the 8th; Moscow, the 26th of August; St. Petersburgh, the 1st of September; and Warsaw, the 5th. Up to the 8th inst. there had been 784 cases of cholera in Berlin, 484 of which had terminated fatally; 205 patients are still under medical treatment, and the remaining 95 are reported as having terminated favourably. At Stettin, on the 6th, 32 new cases had occurred, and 7 had died. The cases from the 8th of August to the 5th of September were 652, of which 433 had terminated fatally, 110 had recovered, and 109 remained ill. At Magdeburg, up to the 6th inst., there had been 79 cases, of which 35 had terminated fatally; from the 6th to the 7th 4 new cases had occurred, and 5 had died, making 83 cases, out of which 40 deaths; from the 7th to the 8th 104 cases and 46 deaths; and from the 8th to the 9th 17 new cases and 10 deaths. At Vienna the cholera had already broken out, and 2 deaths had occurred. A St. Petersburgh letter of the 3d states that the cholera, which had been gradually diminishing in virulence, was again slightly increasing. On the 1st there were 53 new cases, 20 deaths, and 35 cures, being an increase of 14 cases and 10 deaths upon the numbers of the preceding days. On the morning of the 2d there were 380 cholera patients under treatment. At Moscow, on the 25th ult., there were 25 new cases and 16 deaths; and on the 26th there were 25 new cases, but only 11 deaths. In the other provinces of Russia afflicted with this disease it is making great ravages; in some of them as many as between 5,000 and 6,000 persons are carried off by it weekly. At Warsaw, from the 1st to the 4th of September, 214 cases, of which 53 cured and 58 deaths. At Posen, also, the cholera had broken out.

Trieste, September 8th.—It is reported that the Asiatic cholera has broken out in this seaport. It appears that a vessel had recently arrived from Constantinople, the crew of which had been affected by cholera. The ship had been put into quarantine, but the captain having subsequently been seized with illness, attended by cholera symptoms, much alarm was temporarily created for the health of the place. His speedy recovery, however, eventually restored some confidence.

Should this report be proved to be correct, we have no doubt that some busy theorists will immediately undertake to prove that the arrival of the ship from Constantinople had nothing whatever to do with the irruption of the disease. A peccant cesspool or dust-bin will be found, the emanations from which will doubtless suffice to explain all the symptoms! It is strange that the cholera will always appear at some sea-port having commercial intercourse with a country in which it prevails, as if constantly to tax the ingenuity of those who, like our Sanitary Commissioners, maintain that the disease is not communicable in any manner whatsoever.

Hamburgh, Sept. 15.—The Asiatic cholera made its appearance in this town at the beginning of the month. There have been about 280 cases within a period of fourteen days. About half of this number are now convalescent.

INFALLIBLE REMEDIES AND SPECIFICS FOR ASIATIC CHOLERA.

ONE of the marked features of the advent of Asiatic cholera is that many quasi-medical practitioners, send letters to the daily journals on the "advice gratis" principle, recommending the use of particular medicines which *they* have never known to fail in *curing* cholera. We have assigned a portion of our space this week to a long letter upon an alleged cholera specific; because it appeared to have a sort of official character, and all that is official in medical bulletins must be productive either of much harm or good. In either case, it is the duty of medical journalists to make the facts known, so that the public may not be induced to poison themselves without due warning. A Dr. Kruger Hansen has recently rushed into print with two remedies, one of which we are unable to decipher, and the other appears to fall under the "chip and porridge" variety of prescriptions. We give the doctor's account of his remedies as they appeared in the *Times*.

"The remedies in question contain nothing that can possibly operate injuriously—not even if the symptoms be mistaken—no matter whether the disease be Mecklenburgh or Asiatic cholera: the utmost effect that can be produced upon sensitive and susceptible patients would amount to no more than that of one glass of wine beyond the usual allowance taken after dinner. Not only were the remedies found most beneficial in the year 1832, but I have even during the last few weeks had many opportunities of seeing that cholera—advanced to the well-known 'Asiatic' stage — was transformed, after a few doses, into a reactionary state, and that even then the patient became convalescent, after the administration of restorative balsam (*lebens-balsam*) or tincture of Angelica and wine.

"The two remedies which I have hitherto found so efficacious are the following:—

"1. ℞ Mixtura Pyro Tartarica, drachms ij.
Tinctura Opii Simplex, drachm β.

"N.B. About 20 drops for a grown person.

"2. Rec. Cort. Cascarill, gr. xij.
Pulv. Aromat. gr. iv.
Alum. crud. gr. ij.
Op. pur. gr. i.

"N.B. Det. pro dosi the quantity deemed requisite. (*Vide* No. 1 powder.)

"If watery evacuations supervened during the epidemic, with or without rumblings in the bowels, I at once administered to adults the above powder mixed with any liquid at hand, and invariably after its operation, from the fourth to the eighth hour, administered half of one or more, until the watery evacuations ceased. When vomitings preceded or accompanied the watery evacuations, I first administered a dose of the drops mixed with water or wine, repeating it every hour. When early administered, the symptoms subsided after three or four doses, an additional dose only having been administered in rare cases, in consequence of a continuance of rumblings in the intestines. If, in the state or reaction there still continued an inclination to watery evacuations, I did not regard this, as so many physicians do, as a favourable symptom; but on the contrary, endeavoured to stop them by smaller doses of the powder, and the avoidance of all acids and vegetable substances, except potatoes and farinaceous preparations. It need hardly be remarked that the doses were smaller in proportion when administered to patients of tender age."

It will be perceived that the Doctor's directions are sufficiently vague, and his pyrotartaric mixture is to us a perfect mystery. We might have conjectured that he intended by it pyrotartaric acid, but that in his instructions he recommends the scrupulous avoidance of all acids and vegetable substances. Owing to this obscurity, we do not think that Dr. Kruger Hansen's specific will do much harm.

In the same journal there appears a letter from "a retired practitioner," who recommends, every *half hour*, five grains of calomel with one grain and a half of opium, and the same, or even a larger, dose of black pepper. He did not find that assafœtida had any marked effect on the disease. The objection to this mode of treatment is, that *three grains* of opium per hour are too large a dose to be administered indiscriminately with safety. The symptoms of cholera may be arrested, but the unlucky patient may die from the effects of the opium. We admit that in certain diseases larger doses of opium may be borne than in health. We are not satisfied, however, that the safety of large doses of narcotics frequently repeated has been clearly proved in reference to Asiatic cholera, and we feel certain that on the last invasion of the epidemic many were poisoned by the too free use of this drug. They might, it is true, have died from cholera; but the opium accelerated death, and, by so doing, destroyed all hope of recovery. The public should learn from the many and conflicting plans of treatment recommended by newspaper-writers, that these "advice gratis" cures for cholera have about as much claim to their reasonable consideration as the wonderful restoration of limbs, &c. produced by the use of a single pot of Professor Holloway's ointment!

ALLEGED REMEDY FOR ASIATIC CHOLERA.

[As it is our desire to collect information from all sources respecting the treatment of this formidable disease, we here reprint an article which has appeared in the public journals, in which the writer speaks very confidently of the great success which has attended the use of a mixture of stimulants and antispasmodies. The document has a quasi-official authority, as it is represented to be the subject of a report to the Government Board of Health. We must confess that we put very little confidence in the alleged remedy, notwithstanding its vaunted success. Most professional men know what is meant by the success of remedies: in nine cases out of ten where disease is found to be unmanageable under every form of treatment, the good effects are based upon a mere *post hoc propter hoc* inference. Opium, in all doses, has been repeatedly tried, and failed. Stimulants as powerful as black pepper have also been tried and failed; and our knowledge of the properties of assafœtida is not such as to justify any sanguine expectation of marvellous results from its employment. The plan of mechanically confining the circulation of the blood to the trunk is novel. It would have been more satisfactory if the gentleman giving the information to the Board of Health had given some definite statement as to the number of cases treated, date of attack, age, &c. As it is, there is a shadowy vagueness throughout the document on these important particulars. It is well known that on the decline of the disease in a locality, all kinds of treatment, which at first failed, appear to succeed.]

Memorandum of the Arabian Prescription of Assafœtida, Opium, &c. in Cholera.

Several years before the cholera appeared in India, in the course of my oriental pursuits, I was in the habit of reading oriental works on medicine with a learned native physician, who had been regularly educated as a pupil of the principal Hakeem (physician) of the old Nawab of Oude. In my course of reading in an Arabic work of great antiquity on medicine, I met with an account of a disease which struck me as being extremely formidable, which I had never heard of, and which my learned friend had never known except in books. I took a note of it, and of the remedies prescribed for its cure.

When the cholera broke out in Bengal in 1817, it did not, till after some time, strike me that it was the same disease of which I had read, and the faith I had in oriental medicine did not shake my confidence in the remedies prescribed by our own medical men. But I was at length undeceived; and after long and very extensive experience I became fully impressed with the conviction that no remedy had been discovered worthy of reliance, having tried everything that had been favourably spoken of, not always indeed without success, but in the main with signal failure; so much so, that when a case was brought to me, my experience justified no hope, but, on the contrary, complete despair. I was now convinced it was the same disease of which I had so long ago read, and I determined to try the remedy prescribed by the Arabian physicians. I recollected two of the ingredients, but I forgot the third. The note I had made was not to be found; but a third* ingredient came into my mind, with the conviction that it was the right one: and I determined to try the prescription I had thus formed. But the quantities for the dose I had still more entirely forgotten; and this I likewise supplied by considering what might be a dose of each separate ingredient. The first case was not a very bad one: the medicine was given, and it was cured with complete success. Other cases were brought, some bad cases, and some otherwise; they all terminated favourably, not a man was lost. One shocking case appeared of collapse after violent suffering, the patient evidently sinking, having more the appearance of a skeleton covered with skin than a living being; the pulse gone. Here I had no hope, but I administered the medicine in the way hereafter described, and persevered, being thankful for the smallest sign of its effect. I still persevered, and at length the poor creature was restored, I may almost say to life, and completely cured. This gave us great confidence, the more especially as all the while a native doctor whom I employed to administer the medicine among the surrounding inhabitants reported to me daily equal success. No one who has witnessed such scenes as those to which I have alluded will be surprised at the joy and thankfulness which arose in my mind on being thus able to combat so formidable a disease.

This ancient remedy for the most destructive disease of either ancient or modern times does not consist of rare or numerous ingredients. They are articles in common use by all Asiatics, and found in every bazaar (market) in Asia—namely, assafœtida-opium, black pepper (pulverized). I continued the use of this medicine for years, during my residence in India, with the greatest success, the extent of which will be best understood when I say that, instead of despair, as formerly when a case of cholera was brought to me, I learned to feel confident that if the patient was not so far gone that the vital powers were well nigh extinct, his life might be saved. In the meantime I had, through the medium of the Calcutta newspapers, made known the remedy and its success; and seeing its extreme value, and also that the ingredients were such as would be acceptable even to the most fastidious Hindoo, I suggested to the Government of India to make it known to the people throughout the country by means of the village officers and the different police thanas (stations), enjoining them to keep supplies of the medicine for general use; and thus it was proclaimed throughout the Bengal Presidency. And soon thereafter many letters from benevolent individuals at different stations appeared in the public papers recommending it, and giving the most favourable account of its success. The author, or rather the revivor, of it was not made known (for not being a medical man my name could add no weight to the prescription). I, however, made a point of recommending it to all our own medical officers of whom I had any knowledge, and many of them throughout the country then relied upon it, although from the ravages which the disease is stated to have made of late years in many parts of India, I much fear that this powerful medicine has in the course of time, and by the constant change of men, been greatly forgotten.

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* The third ingredient is black pepper, which I have used; but the Arabian prescription, I found on recovering the note I had mislaid, was the powder of the root of the "Asclepias Gigantea," which is a powerful stimulant and febrifuge; but it is a rare plant, and as the pepper answered so well I have never tried the Æsclepias Gigantea. The other two ingredients, assafœtida and opium, were correct.

I have, however, since my return to England heard from several medical men in India of the success with which they continued to use it. Of these I have particularly to mention a gentleman who was among the first to whom I recommended the medicine, and who has constantly used it ever since—that is, for nearly 25 years. I mean Dr. Wise, now principal of the College of Dakkah, in Bengal, a man of great science and knowledge of his profession, and an author both in oriental literature and in medicine ancient and modern. This is happily confirmed by a letter which I have lately received from Dr. Wise. The communication is so important that I cannot suppress the following extract from it without omitting a striking proof of the value of the remedy I desire universally to recommend:—

Extract of a Letter from Mr. Thomas Wise, M.D., dated Dakkah, April 2, 1847.

"Many years ago you asked me my opinion of your prescription (the assafœtida and opium pills in cholera). My report was then favourable, and I think you will be pleased to know the result of my further experience. I am happy to say it is still very favourable: indeed, so much so, that when they (the pills) are given in an early stage of the disease, they almost always accomplish a cure. So much is this the case that I always use them; and since September last, during the prevalence of a prevalent epidemic, I find I have distributed 20,600 pills. Almost every turning in the city of Dakkah had boards indicating where the pills were to be got. When the patients were brought to the hospital, or when I see them first in a collapsed state of cholera, I give a pill broken down (bruised in a spoonful of brandy and water), and repeat it; and I apply the tourniquet to the four extremities. This throws several pounds of blood into the trunk, and disturbs and removes the morbid action; and thus patients are cured when there is no chance with any other remedies."

The tourniquet is a recent application, to which Dr. Wise attaches considerable importance.

Mode of using the medicine.

Ingredients for one dose for an adult.—Assafœtida, opium, black pepper (pulverized), of each two grains made into a pill.

N.B.—Should two grains of opium be thought too large a dose (which if very pure opium be used it may be) 1½ grains may be tried.

These pills may be made up and kept for use in a phial, the mouth of it being well closed. When used the pills should be broken down and bruised and taken in a table-spoonful of brandy and water, and washed down with a small quantity of the same. (It would be still better to chew the pill and swallow it, washed down in the same manner.) But the pills should not be swallowed whole, as they would not act so promptly, and might be brought up by vomiting. The dose should be repeated every half-hour* or hour, according to the urgency of the case, until the symptoms be subdued. Two or three doses are generally sufficient, but five or more have been given before the disease has been arrested, giving half or quarter doses at shorter intervals; and in cases of great prostration and protracted disease I have, as an additional stimulant, substituted red pepper for the black pepper occasionally.

Friction, with hot and stimulating substances, over the stomach and abdomen, should also be used. The limbs also should be well rubbed in the same way; and if the patient has complained of more than usual pain in the stomach I have sometimes given 10 grains of calomel—although I cannot say that I have observed much benefit from it, unless where there has been congestion of liver; or indeed from anything taken internally except this medicine. If there be much thirst, as generally there is, a few spoonfuls of brandy and water may be given.

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* Two grains of opium every half-hour, to the extent of five doses, would be heroic practice. The patient may recover from the disease, but die from the treatment.—Ed. Gaz.

In cases of collapse the same course must be pursued and continued, the medicine being repeated at intervals of longer or shorter duration, according to the state of the patient. And as Dr. Wise has recommended the application of the tourniquet to the arms and legs in order to husband as it were the vital power by limiting the extent of circulation, this may be tried by applying a ligature of tape or other substances to the upper arm and thigh if the tourniquet be not available.

Cure for the Cholera.

Ingredients.—Assafœtida, opium, black pepper pulverized. These ingredients, more or less pure, will be found in every town and village.

The dose for an adult is from a grain and a half to two grains of each, made into a pill.*

The medicine should be made up into pills of one dose each, and kept for use in a phial well closed, as it is of great importance to check the disease the instant of its attack.

The best mode of administering the pill is not by swallowing it whole, lest it be rejected in that state, but by chewing it and swallowing it with the moisture of the mouth, and a very little brandy-and-water to wash it down. The next best way of administering the medicine is by bruising the pill in a spoonful of brandy and-water, and then swallowing it.

Much liquid must not be given; but to relieve the thirst, which is great, brandy-and-water by spoonfuls occasionally, is the best mode.

The dose should be repeated every half or three-quarters of an hour according to the urgency of the symptoms until they have been subdued. From three to five doses have generally been sufficient for this, although as many as eight have been given before health has been restored in bad cases.

Should great prostration of strength prevail, with spasm or without spasm, after the other symptoms (vomiting, purging, &c.) have been subdued, the medicine must not be wholly left off, but given in half or quarter doses so as to keep up the strength and restore the pulse.

Friction, with stimulating liniment of some kind, ought to be applied carefully to the stomach, abdomen, legs, and arms; and when pain in the stomach has been severe, and there was reason to fear congestion of the liver, eight or ten grains of calomel have been given with good effect.

In cases of collapse and great prostration of strength the application of the tourniquet to the arms and legs has been recommended, in order, as it were, to husband the vital power by limiting the extent of the circulation. This may be tried, using a ligature of tape or other substance, if the tourniquet be not available.

The favourable symptoms of recovery are restoration of the pulse, returning warmth of the body, and sleep; and after being refreshed by sleep, the recovery being complete, a dose of castor oil may be given.

REPORT TO THE REGISTRAR GENERAL ON THE MORTALITY OF THE GLOUCESTER DISTRICTS IN 1847. BY H. W. RUMSEY, ESQ.

[We have great pleasure in giving insertion to the subjoined Report, which has been ably drawn up by a gentleman in every way qualified for the task, and whose name is well known to our readers by his former contributions to this journal. We have selected for insertion those parts of the Report which appeared to be of general interest, omitting details of a purely local character. We trust that Mr. Rumsey's example, in furnishing correct scientific reports of the rate of mortality in the Gloucester districts, will serve to stimulate practitioners in other provincial districts, and induce them to come forward in aid of the great objects of sanitary reform.]

The addition to the population of the city of Gloucester and its suburbs averaged 2·41 per cent. annually between 1831 and 1841: the addition to the rural parishes alone about 1 per cent. This different ratio of increase in town and country is strikingly illustrative of the great fact of the age; that is, the rapid concentration of large masses of the people in towns and crowded districts. Whatever may be the causes for this altered distribution of the population, it is impossible to watch without anxiety the progress of a change which is so plainly and incontestibly accompanied by moral and physical deterioration of the people,—by shortened life, prolonged sickness, and growing distress, disaffection, and crime.

The population of the whole Superintendent Registrar's district (viz. the Gloucester Union and one extra-parochial place) was in 1831, 22,312; in 1841, 26,815.

The increase, 4503, averages two per cent. annually, a rate nearly double that for England and Wales in the same period. Supposing the same rate of increase to have continued since 1841, 3,217 persons would have been added in six years, and the population in 1847 would have amounted to 30,032.

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* This according as the ingredients are pure or otherwise. If pure, 1½ grains will suffice.

The total number of deaths in the year was 767; but at least 46 of these were of persons coming from beyond the limits of the Union into the Asylum, Infirmary, and Prison. The average number of immigrants constantly inhabiting these institutions may be estimated at 440 last year. Deducting this number from the assumed population, and the 46 deaths from the total mortality of the year, it appears that 721 deaths occurred among nearly 29,600 inhabitants, or 1 in 41, or 2·43 per cent.

In order to distribute the estimated addition to the population since 1841 among the three proposed divisions of the whole district, we may suppose that the *rural* parishes, which in 1841 contained 7028 persons, increased (as before) six per cent. in the six years. Their population accordingly would have amounted to 7450 in 1847, leaving for the city and suburbs 22,150. Now, in 1841 the suburbs did not contain half the number of the city inhabitants (6,125 to 12,832); but considering the more rapid increase of the former, their population might, in 1847, be safely assumed to be 7,380, or half that belonging to the city proper—14,760; thus making up the total calculated population for that year.

The following table shows the ratio of mortality in these three divisions of the Union:—

	Estimated population in 1847.	MORTALITY				
		In public institutions.	In houses.	Total.	One death in	Deaths per cent.
City Proper . .	14,767	32	355	387	38·15	
Suburbs . . .	7,388	16	181	197	37·3	
	22,150	48	536	584	38	2·64
Rural Parishes .	7,450	16	121	137	54·4	1·84
	29,600	64	657	721	41	
Difference in the mortality per cent. of Town and Country .						0·8

Thus, eight in every thousand, or 176 persons in the city and suburbs, died in 1847, beyond the number which would have died had the ratio been the same as in the surrounding country parishes. Even supposing the city mortality, instead of being reduced to 1 in 54½ annually (the country rate), had been 1 in 50, which has been stated on high authority as "a fair standard rate of mortality for all towns and populous places," the excess of deaths would amount to 141: say 140 deaths, involving 2,800 cases of sickness in the year, or 280 persons constantly ill, over and above the natural proportion of mortality and sickness! The sanatory reformers of Gloucester could not produce a stronger argument, nor plead a more ample justification for their labours. I do not admit that the year 1847 was unfavourably distinguished for disease and death in this place. The rate of mortality which I have now deduced, is below that stated in Mr. Slaney's Report of Gloucester as the average of three years and eleven months, which appears to have been 2·76, or 1 in every 36 inhabitants.

The preceding estimate of extra or preventible sickness is based upon extended statistical observations of the relation subsisting between sickness and mortality, which has been assumed to be uniform throughout the kingdom, so that, the latter being given, the former may be found, in any locality or among any class of persons. It would, however, be much more satisfactory if the prevalence of sickness could be determined by a separate observation in each district. There is reason to believe that the above ratio (two years of sickness, or *twenty cases to one death*) is far from being constant; and that as the habits and occupations of the people vary, as the average age of the living is higher or lower, as epidemic and contagious diseases are more or less prevalent, as sanatory precautions are more or less observed, and as medical care is more or less liberally bestowed on the poor,—the proportion between sickness and death varies very greatly. But I had no other means of estimating the general amount of sickness; for, as I reported to the Health of Town Commissioners, the records of our public medical establishments are either defective or inaccessible, and a vast number of cases among the poor do not come at all under medical observation or treatment. The only certain method of obtaining authentic information as to the prevalence of sickness in the town generally, and in the worst-conditioned localities especially, would be for the municipal authorities to require periodical returns of the sanatory condition of single streets and courts.

In estimating the comparative mortality of different parts of the city, with reference to population, the last census is adopted as the basis of calculation; while to compensate for not taking into account the probable increase of population, the deaths occurring in public institutions are also omitted.

From a table on the rate of mortality in certain parishes and districts in 1847, as well as from conclusions previously drawn, it appears that, on the whole, the *suburbs* of Gloucester were, in 1847, more unfavourable to health and life than either the city or the rural parishes. The hamlet of Kingsholm (St. Mary) suffered the highest mortality of all the parochial divisions; while St. Michael, a parish in the very centre of the old city, experienced *the lowest proportion of deaths*. It is worthy of notice that the parishes and places which show the higher rates of mortality, and the greater proportion of death from fever and other epidemic diseases, in 1847, were generally those in which the Asiatic cholera raged most fearfully in 1832. This remark applies especially to "the Island," and the courts and lanes adjoining Westgate Street, in the two last-named parishes. These, notwithstanding the recent sanatory measures of the Town Council, and the zealous efforts of their inspector of nuisances, still remain in an unsatisfactory condition, and must continue so until the adoption of a comprehensive system of sewerage, combined with a constant supply of water (at high pressure) to each dwelling, and an improved street and house ventilation.

Not having before me the *ages* of the inhabitants at the last census, I cannot determine the vital strength of the Gloucester population by the surest test—namely, *the mean duration of life*; but something may be learnt from the average age at death, which, in 1847, was 32·71 years in the rural districts; 27·73 in the city proper; and only 25·56 in the suburbs. In London (1841) this was 29; in Surrey, 34 years. I would not infer from this single observation of facts, that our city and rural residents are respectively shorter lived than the inhabitants of London and Surrey. An increasing population, like ours, is generally composed of comparatively young persons, and the low average age at death may depend on the excess of children, for immigration takes place but to a very small extent in Gloucester. The calculation of the mean age of death in this place is therefore chiefly of importance as a means of comparing the different parts of the district among themselves.

The proportion dying at different ages in the three divisions differs as follows:—

	Deaths			Proportion	
	under 5	above 60	Total.	under 5	above 60
Rural Parishes . .	46	34	121	1 in 2·63	1 in 3·56
City	155	67	335	——2·29	——5·30
Suburbs	87	34	181	——2·08	——5·32

Here, then, these divisions appear still in the same order, the rural parishes showing the lowest infant mortality, the suburbs the highest; the former containing the greatest proportion of persons dying above 60, the suburbs the smallest. From all these observations, coinciding so remarkably as they do, though not extending beyond the year 1847, we may fairly conclude that the suburbs of Gloucester contain a population more subject to disease and death than the other divisions of the union.

It would be unsuitable to trouble you with lengthened remarks on the causes of the lower sanitary condition of the suburbs, but I may be allowed to mention, as a main source of atmospheric pollution, *the open ditches which surround the town in all directions*. Laden with the decomposing impurities of the place, these trail their slow and loathsome courses through meadows and open places in the immediate vicinity of the city, which would otherwise prove highly beneficial to the inhabitants, both for health and recreation, but which, in their present condition, are worse than useless. The hamlet of Kingsholm St. Mary, already mentioned as the most fatal locality last year, contains a nest of small, ill-conditioned streets, one of which is named *Sweet Briar*, (the "lucus a non lucendo" of Gloucester), probably from its displaying a most foul and pestilential ditch, which conveys or rather arrests the drainage of the northern and eastern suburbs. No partial measures will be of any avail in such a case. No plan of drainage and cleansing which does not extend for a mile from the centre of the city on all sides will remove these evils, or diminish the destruction of health and life which I have shown to prevail beyond the olden limits of Gloucester.

In reference to the *monthly progress* of mortality during the year, together with the diseases registered as the causes of death, it may be observed that the first quarter exhibited the *highest* mortality of the year, and that January was the most fatal month. The second quarter ranks next to the first in its number of deaths; and the month of May next to January. The excess of deaths in these quarters and months is mainly attributable to diseases of the respiratory organs. *May* was most fatal to consumptive patients, and

January to old persons. Deaths from disorders of the brain and nervous system were also in excess during the first five months of the year, and April shows an extraordinary mortality among diseases of this class. Disorders of the digestive organs proved more than usually destructive in June. Measles was epidemic from February to June, causing 25 deaths. Fever succeeded measles, and carried off 29 in the last two quarters. Scarlatina prevailed during September, October, and November. On the whole, the zymotic (epidemic, endemic, and contagious) class of diseases distinguished the mortality of the last four months. The influenza of December destroyed ten persons, and the same number died of this epidemic in the preceding January. The last quarter, however, presented a total mortality rather below the average, and in this respect it contrasts strongly with the 117 districts reported quarterly from the General Register office. The third quarter of the year was here the most favourable to life of all, the deaths being only three-fifths of those in the first quarter.

With regard to the relative prevalence of different classes of disease, it may be observed that in the city and suburbs, deaths from *zymotic diseases* were nearly 23 per cent. of the whole number, while in the table appended to Mr. Slaney's Report, they seem to have been 33 per cent. The following table shews that, notwithstanding the great prevalence of influenza in the metropolis, the total deaths from zymotic diseases were scarcely in a higher ratio there than in Gloucester, while, from diseases of the respiratory organs, the metropolis ratio of mortality was higher, and from fever lower :—

Between the whole Gloucester Union in 1847, and the average of England and Wales in the five years 1838-42, there also exists a remarkable similarity in the relative proportion of deaths from the above-mentioned causes.

DEATHS FROM

	All Causes.	Zymotic Diseases.	Per cent.	Fever.	Per cent.	Respiratory Organs.	Per cent.
Metropolis, 1847 . . .	60,442	13,887	23	3,184	5·2	18,460	30·5
Gloucester, 1847 . . .	536	123	22·9	35	6·5	158	92·
England & Wales 1838-42, Annual average . . .	346,887	67,375	19·4	16,533	4·7	91,093	26·2
Gloucester Union, 1847 .	767	146	19·	43	5·6	206	26·9

If it should at first sight appear that the ratio of deaths from fever and lung diseases was rather higher in Gloucester last year than in the whole country at the former quinquennial period, it should be borne in mind that a much smaller proportion of deaths, from causes *not* specified, occurred in Gloucester than in England and Wales. It deserves notice that while the deaths attributed to "debility" were 4 per cent. in England, "debility from birth" alone is reported to have carried off 5 per cent. in the Gloucester districts. Diseases of the brain and nervous system alone shew a somewhat higher mortality here, but this is fully accounted for from our possessing an admirably-conducted Lunatic Asylum, which receives patients from the whole of this and other counties.

The extra mortality, therefore, which has been proved to exist in Gloucester, cannot be attributed to the unusual prevalence of any particular disease, or class of diseases, but to the excess of all sorts of sickness, and a consequent general increase of deaths. There is every ground to believe that this excess may have arisen from removable causes.

INCREASED SALE OF OPIUM.

THE monthly returns of the Board of Trade continue to shew a great increase in the importation of this drug, and in the quantity taken for home consumption. In the month ending Aug. 5, 1847, the quantity of opium imported is stated to have been only 14 lbs., and the quantity taken for home consumption was 6134 lbs. In the same monthly period in 1848, the quantity imported was 1744 lbs., and that taken for home consumption was 6802 lbs. It would be desirable to know for what purposes so large a consumption of this drug is required.

PREPARATION OF COLLODION, OR SOLUTION OF GUN-COTTON, AS AN ADHESIVE MATERIAL FOR SURGICAL PURPOSES.

M. MALGAIGNE has recently communicated to the French medical journals some remarks on the preparation of gun-cotton for surgical purposes. Several French chemists, at the suggestion of M. Malgaigne, attempted to make an ethereal solution of this compound by pursuing the process recommended by Mr. Maynard in the American Journal of Medical Sciences; but they failed in procuring the cotton in a state in which it could be dissolved by ether. It appears that these experimentalists had employed a mixture of nitric and sulphuric acids; but M. Mialhe ascertained, after many trials, that the collodion, in a state fitted for solution, was much more easily procured by using a mixture of nitrate of potash and sulphuric acid.

For the information of our readers who may be disposed to try this new adhesive material, we here give a description of M. Mialhe's process for its preparation. It appears, from the results obtained by this chemist, that cotton, in its most explosive form, is not the best fitted for making the ethereal solution :—

	Parts by weight.
Finely powdered nitrate of potash .	40
Concentrated sulphuric acid* . .	60
Carded cotton	2

Mix the nitre with the sulphuric acid in a porcelain vessel, then add the cotton, and agitate the mass for *three minutes* by the aid of two glass rods. Wash the cotton, without first pressing it, in a large quantity of water, and, when all acidity is removed (indicated by litmus paper), press it firmly in a cloth. Pull it out into a loose mass, and dry it in a stove at a moderate heat.

The compound thus obtained is not pure fulminating cotton: it always retains a small quantity of sulphuric acid, is less inflammable than gun-cotton, and it leaves a carbonaceous residue after explosion. It has, however, in a remarkable degree, the property of solubility in ether, especially when mixed with a little alcohol, and it forms therewith a very adhesive solution, to which the name of *Collodion* has been applied.

Preparation of Collodion.

Prepared Cotton . . .	8	parts by weight.
Rectified sulphuric ether	125	"
Rectified alcohol . .	8	"

Put the cotton with the ether into a well-stopped bottle, and shake the mixture for some minutes. Then add the alcohol by degrees, and continue to shake until the whole of the liquid acquires a syrupy consistency. It may be then passed through a cloth, the residue strongly pressed, and the liquid kept in a well-secured bottle.

Collodion thus prepared possesses remarkably adhesive properties. A piece of linen or cotton cloth covered with it, and made to adhere by evaporation to the palm of the hand, will support, after a few minutes, without giving way, a weight of from twenty to thirty pounds. Its adhesive power is so great, that the cloth will commonly be torn before it gives way. The collodion cannot be regarded as a perfect solution of the cotton. It contains, suspended and floating in it, a quantity of the vegetable fibre which has escaped the solvent action of the ether. The liquid portion may be separated from these fibres by a filter, but it is doubtful whether this is an advantage. In the evaporation of the liquid, these undissolved fibres, by felting with each other, appear to give a greater degree of tenacity and resistance to the dried mass.

In the preparation of collodion it is indispensable to avoid the presence of *water*, as this renders it less adhesive: hence the ether, as well as the alcohol, should be pure and rectified. The parts to which the collodion is applied should be first thoroughly *dried*, and no water allowed to come in contact with them until all the ether is evaporated.

INCREASE OF SUICIDE IN FRANCE.

According to some statistical tables for the year 1846, recently published in France, it appears that suicide has been for some years progressively on the increase in that country; and as we infer from the report to an amount greater than would be indicated by the increase of population. The number of suicides amounted in

1841	to	2814
1842	to	2886
1845	to	3084
1846	to	3102

Amongst the suicides in 1846, were 27 children from 10 to 15 years of age, 139 between 16 and 21 years, 443 from 21 to 30 years, 1,214 from 30 to 50 years, 513 from 50 to 60 years, 403 from 60 to 70 years, 209 from 70 to 80 years, and 51 above 80 years. Suicides are more frequent in spring and summer than in winter and autumn. The months of June, July, and August, produced 940. Those of March, April, and May, 904. Those of September, October, and November, 654; and those of December, January, and February, 604. Strangulation and suspension were the means most frequently employed by the suicides of 1846 to terminate their existence; 1,077 had recourse to it; 1,036 drowned themselves; 222 suffocated themselves with charcoal, and 429 used firearms. Amongst the suicides recorded in the year 1846, more than a quarter, viz. 888, were caused by insanity. The other cases arose from various causes. Physical sufferings and domestic unhappiness, pecuniary embarrassment, and the fear of distress, are the most frequent.

It further appears that the number of accidental deaths during the year 1846, amounted to 7,558: of which 3,861 were caused by drowning, 624 were crushed to death by carriages, and 45 were caused by railroad accidents.

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* The common commercial acid will answer. When very weak, a longer immersion of the cotton is required.

BIRTHS & DEATHS IN THE METROPOLIS

During the week ending Saturday, Sept. 9.

Births.		Deaths.		*Av. of* 5 *Sum.*	
Males....	657	Males....	484	Males....	495
Females..	645	Females..	442	Females..	477
	1302		926		972

Causes of Death.		Av. of 5 Sum.
All Causes	926	972
Specified Causes	925	968
1. *Zymotic* (or Epidemic, Endemic, Contagious) *Diseases*	374	257
Sporadic Diseases, viz.—		
2. Dropsy, Cancer, &c. of uncertain seat	41	45
3. Brain, Spinal Marrow, Nerves, and Senses	90	120
4. Lungs and other Organs of Respiration	70	80
5. Heart and Bloodvessels	22	28
6. Stomach, Liver, and other Organs of Digestion	74	79
7. Diseases of the Kidneys, &c.	6	8
8. Childbirth, Diseases of the Uterus, &c.	9	10
9. Rhematism, Diseases of the Bones, Joints, &c.	5	7
10. Skin, Cellular Tissue, &c.	0	1
11. Old Age	29	50
12. Violence, Privation, Cold, and Intemperance	29	8

The following is a selection of the numbers of Deaths from the most important special causes:

Small-pox	36	Paralysis	15
Measles	16	Convulsions	28
Scarlatina	145	Bronchitis	26
Hooping-cough	33	Pneumonia	29
Diarrhœa	42	Phthisis	100
Cholera	6	Dis. of Lungs, &c.	7
Typhus	63	Teething	12
Dropsy	20	Dis. Stomach, &c.	4
Sudden deaths	4	Dis. of Liver, &c.	12
Hydrocephalus	18	Childbirth	7
Apoplexy	19	Dis. of Uterus, &c.	2

Remarks.—The total number of deaths was 46 below the weekly summer average. The deaths from diarrhœa are one-third less than the average at this season (66) Of cholera there were only six fatal cases, while the average weekly number is seven. Notwithstanding these favourable circumstances, the continued increase in the fatality of scarlet fever among the infantile population is most alarming. The deaths were no less than 145 to a weekly summer average of 37.

METEOROLOGICAL SUMMARY.

Mean Height of Barometer .... 30·08
" " Thermometer[a] .... 53·3
Self-registering do.[b] .... max. 90·8 min. 28·
" in the Thames water — 61·5 — 55·8

[a] From 12 observations daily. [b] Sun.

Rain, in inches, ·33: sum of the daily observations taken at 9 o'clock.

Meteorological.—The mean temperature of the week was 5°.5 below the mean of the month.

BOOKS & PERIODICALS RECEIVED.

Report of the Medical Officers of the Lancaster Lunatic Asylum.

Sanitary Questions on the Wolverton Well Water, by G. Corfe, Esq.

A Treatise on the Advantages and Necessity of Frequent Bathing.

Comptes Rendus, Nos. 7 and 8, 14 and 21 Août.

British Record of Obstetric Medicine, Sept. 1848.

A few Thoughts on Cholera, by M. T. Sadler.

The Periodoscope, by W. Tyler Smith, M.B. &c.

On the Employment of Chloroform in Dental Surgery, by F. B. Imlach, Dentist.

Taschen-Encyclopädie der medicinischen Wissenschaften, 11 Bändchen.

Physiologie des Menschen, von Dr. M. Flänkel. Erlangen, 1847.

School Chemistry, by Dr. R. D. Thomson, Lecturer on Chemistry, University of Glasgow.

Works of the Cavendish Society. — Chemical Reports and Memoirs. Edited by Thomas Graham, Esq. V.P.R.S. L.

Medicinische Jahrbücher des K. K. österreichischen Staates. Februar, Marz, April, Mai.

Oesterreichische Medicinische Wochenschrift (for the same months).

The January numbers of these journals have not been received.

The Water-Cure Journal, No. 14, Sept. 1848.

Todd's Cyclopædia of Anatomy and Physiology, Part XXXIII.

NOTICES TO CORRESPONDENTS.

The letter of an Apothecary should be addressed to the Editor of the Medical Directory.

The communications of Mr. Barlow and Mr. Smith will be inserted in the following number.

Mr. J. Jackson's paper has been received.

Medical Prize Essays.—A note is left with Messrs. Wilson and Ogilvy, Skinner Street, for our correspondent C. S.

K.—The communication will be inserted. We shall be happy to receive a short abstract such as that to which our correspondent alludes as a specimen.

The continuation papers of Dr. Snow, Dr. Andrew Clark, and Mr. J. D. Macdonald, have been received, and will have early insertion.

Received.—Sir B. C. Brodie.

THE GENERAL INDEX.

We have to announce to our Subscribers that a General Index to the *first* 40 *Volumes* of the London Medical Gazette will, it is calculated, form a large Volume of about 700 pages. The cost of the Index Volume, respecting which many inquiries have been made, will be Twenty-four Shillings; and it is proposed o commence it so soon as the Names of *Five Hundred Subscribers* have been obtained.—The printers, Messrs. Wilson and Ogilvy, 5 7, Skinner Street, will receive the Names of Subscribers.

Lectures.

COURSE OF SURGERY,

Delivered in the years 1846 *and* 1847,

By Bransby B. Cooper, F.R.S.

Surgeon, and Lecturer on Surgery at Guy's Hospital.

Lecture XXXVIII.

Direct inguinal hernia or internal inguinal hernia—difficulty in diagnosis—Anatomy of—operation for direct inguinal hernia—Case—Small size of direct hernia.

Femoral hernia—peculiarities of—diagnosis—coverings—conditions of—taxis—direction of—operation—division of stricture—variation in the course of the epigastric artery—precaution—cause of stricture—Case—favourable prognosis—after-treatment—difficulties which may present themselves during the operation—Cases.

Umbilical hernia—its characters—operation—Mr. Key's plan—modification of—Cases—after-treatment. Ventral hernia—situation of—Steatomata may be mistaken for ventral hernia—operation of strangulated hernia—prognosis unfavourable.

Direct inguinal hernia.—A scrotal hernia does not necessarily pass through the internal abdominal ring, but may protrude at once from the cavity of the abdomen through the external ring: this is called a *direct inguinal hernia*, or, from being placed on the inner side of the epigastric artery, is sometimes termed an internal inguinal hernia: the former term, however, is, I think, the most appropriate. It is very difficult to distinguish a direct from an oblique inguinal hernia during life: this difficulty arises from the descent of the internal ring in the oblique hernia, so that all obvious obliquity in the direction of the swelling is lost: usually, however, a direct hernia may be recognised from the absence of the pyramidal form, and from being the part which should form the neck enlarged into a broad base above the external ring, and being placed immediately on the outer side of the spermatic cord, which in an oblique inguinal hernia is covered by the tumor. The want of a correct diagnosis is not, however, important as to treatment, for the direction of the taxis in either kind of scrotal hernia must of course be towards the external ring; and if it be oblique hernia, the proximity of the two rings would do away with any necessity for obliquity in the direction of the force employed for the reduction. A direct inguinal hernia pushes before it, through the external ring, the united tendon of the internal oblique and transversalis muscles, which tendon forms the posterior wall of the inguinal canal, and strengthens the abdominal parietes immediately behind the external ring. The posterior surface of the tendon is covered by the internal abdominal fascia, as it takes its course downwards behind Poupart's ligament to form the anterior layer of the sheath of the femoral vessels. The principal anatomical point connected with a direct inguinal hernia, is the position of the epigastric artery, which lies on its outer side, and that of the spermatic cord, which is somewhat posterior to it, and also placed on its iliac side. Should the attempt to reduce the hernia by the application of the taxis fail, the operation must be resorted to, as in every other case of strangulated hernia.

Operation for direct inguinal hernia.—The parts to be first cut through in this operation are the skin, external spermatic fascia, and cremaster muscle; the latter, however, if the hernia be large, would probably only cover the outer portion of the tumor, and in that case might be turned off the subjacent coverings without requiring the use of the knife: the tendinous structure of the internal oblique and transversalis muscles would thus be exposed, and must be divided, and with it (I think almost unavoidably) the internal abdominal fascia. When these various tissues are cut through, the stricture is to be liberated with similar precautions to those already mentioned; but in addition, particular care must be taken not to give any outward direction to the knife, in consequence of the characteristic position of the epigastric artery. If the contents of the sac cannot be returned when the stricture has been relieved, the sac must be laid open, as in the operation for oblique inguinal hernia.

I have already mentioned that there is considerable difficulty in distinguishing a direct from an oblique inguinal hernia, and, indeed, even the operation may not solve this difficulty; for if the united tendon of the internal oblique and transversalis muscles be much attenuated, or gives only a partial covering to the hernia, it may escape detection, and no specific character of the hernia would then present itself.

Among the numerous operations which I have performed for this complaint, I have on two or three occasions had some doubts, both before and after the operation, as to the true nature of the hernia; and not having an opportunity of post-mortem examination, was unable to clear up the point. The following case, however, seems to me one in which there can be little question as to the course of the protruded bowel:—

A patient was admitted into Luke's ward with a small irreducible scrotal hernia on the right side. Mr. Hilton had seen the case, and had given it as his opinion that it was a direct inguinal hernia. After the anatomical lecture, I was called to the case, and upon examination found a small round firm tumor, scarcely projecting through the right external ring, and not in the least extending outwards into the inguinal canal: as the patient was suffering under all the symptoms of strangulated hernia, and as I was unable to reduce the swelling, I proposed the operation, which was consented to, and immediately performed. On cutting through the skin and superficial fascia, some few fibres of the cremaster muscle were seen covering the outer half of the swelling; these were easily turned downwards and outwards, without the aid of the knife, and a distinct tendinous surface exposed: upon dividing this, the sac presented itself to view, and I opened it, relieved the stricture, and easily reduced the hernia: the patient was in a few days convalescent. I have no doubt in this case I divided the internal abdominal fascia, the fascia transversalis of Sir Astley Cooper, at the same time I cut through the tendons of the internal oblique and transversalis muscles.

A direct inguinal hernia is usually very small, owing to the resistance it meets from the tendon of the internal oblique and transversalis muscles, and this resistance is so great as actually to prevent the protrusion sometimes of the tumor through the external ring; in a few cases the fibres of the tendon have given way, and the hernia passed between them: under such circumstances there would arise still greater difficulty in recognising the hernia as a direct one, owing to its appearing without its characteristic tendinous covering. When a direct hernia increases to a large size, it projects below the free edge of the tendon of the internal oblique and transversalis muscles, so that only the inner and upper half of the tumor is covered by it, but the partial tendinous covering is sufficient to mark the direct character of the hernia. The great distinctive peculiarity of direct inguinal hernia is, however, the position of the epigastric artery; and unless the operator be well acquainted with the course of that vessel in relation to the seat of stricture, he would be very likely to wound it: and it is to avoid doing so, that, in the operation, the incision should always be made directly upwards.

Femoral hernia.—This is sometimes also termed a merocele, or crural hernia. In femoral hernia the protruding viscus passes down behind Poupart's ligament into the thigh, and it may easily be distinguished from inguinal hernia if the swelling be of small size, as it is seen distinctly below Poupart's ligament, but if it be large it first projects forwards and then upwards over Poupart's ligament, acquiring a strong resemblance to an inguinal hernia; as it can, however, be readily pushed down completely into the thigh to the outer side of, and below, the spinous process of the pubes, its true nature may be ascertained with certainty.

The opening by which a merocele passes from the cavity of the abdomen to the thigh, is that through which the femoral vessels also pass; these vessels are covered by the internal abdominal fascia, which tissue furnishes at the same time a covering to the hernia. The protrusion, as you will perceive, gentlemen, has nothing to do with either of the abdominal rings, going directly to the thigh, not passing through but under the abdominal parietes. Its coverings are skin, superficial fascia, internal abdominal fascia, and peritoneum: it does not obtain a covering from the fascia lata, as it protrudes through the opening left in that tissue for the ingress of the saphena major vein. Sometimes, however, a few bands of fascia pass across from the iliac to the pubic portion of the fascia lata, and may perhaps be considered as forming somewhat of a covering to the hernia, but they would offer no obstacle to the course of the operation.

Femoral, as well as every other kind of hernia, may present itself under one of the forms—*reducible*, *irreducible*, or *strangulated*. In order to discover whether the hernia be reducible, the taxis must be applied, and this may be done at once, unless there exists some reason for first submitting the patient to the warm bath, and applying ice to the swelling: such a delay would, for instance, be advisable, if the tumor were tender, and the skin very tense. The direction in which the taxis must be applied is quite different in femoral hernia to that required in inguinal; the object in the former is, first to direct the tumor into the thigh, and then press it backwards through the saphenous opening, and it is not until after this is accomplished that any attempt should be made to push the neck of the sac upwards behind Poupart's ligament into the abdominal cavity. When the hernia is reduced, the treatment is precisely similar to that in inguinal hernia; but should it remain irreducible, both constitutional and local means must be employed to prevent it from becoming obstructed, and if strangulated, the operation, as in the other kinds of hernia already spoken of, is the only means of giving relief to the patient. The operation in this case differs, however, so much from that in inguinal hernia, as to demand a particular description.

Operation for strangulated femoral hernia.—The first step in this operation is to make a horizontal incision through the base of the tumor, and a vertical one from the upper part of the tumor, to meet the first cut at its centre, the whole incision being in the form of an inverted T (⊥): and being intended to divide the skin only. This is the form of incision which Sir Astley Cooper always employed in femoral hernia, but I do not urge the necessity for its being invariably adhered to, as any incision through the skin which affords sufficient space for the subsequent steps in the operation, may be found equally efficient. The second step of the operation consists in dividing the superficial fascia in the same direction as that of the incisions through the skin; and if any of the fibres of the fascia lata, which I have spoken of as sometimes forming a partial covering to this hernia, be seen, they must be carefully divided so as to ensure the complete exposure of the internal abdominal fascia (the "fascia propria" of Sir Astley Cooper). This intrinsic covering is to be taken up by the point of a pair of forceps, and an opening, only just large enough to admit of the passage of a director, made with a sharp-pointed knife; the fascia may then be more completely laid open, when a quantity of fat is usually met with: this must not be mistaken for omentum, which, indeed, it cannot be, because the hernial sac remains yet unopened. The director must next be passed between the hernial sac, and the internal abdominal fascia, being first pushed deeply into the thigh, and then upwards towards Poupart's ligament. In its upward progress a degree of resistance will be experienced, in proportion to the tightness of the stricture; the director must, however, be insinuated beneath the point of constriction, and the hernial knife being passed along the groove into the cavity of the abdomen, its cutting edge is turned forwards, and the stricture divided by giving the knife an upward direction. The precaution, as to the direction in which the cut is made, is highly necessary, for the purpose of avoiding the epigastric artery, which lies on the outer side of the stricture. In the normal arrangement of the parts, the epigastric artery could scarcely be considered in danger; but it sometimes happens that that vessel is given off from the obturator artery, and when this is the case, it must cross exactly over the part of the tumor subjected to constriction, and could then hardly escape being wounded during the division of the stricture. To avoid this accident, I therefore always pass my finger along the director, while that instrument is under the stricture, to seek for the pulsation of the artery before I use the knife. If I detected the presence of the vessel, I should not divide the stricture by the knife, but by means of the finger-nail, or some blunt instrument not likely to wound the artery. The internal abdominal fascia, or fascia propria, is always, in my opinion, the seat of the constriction in femoral hernia, and not Poupart's or Gimbernat's ligament, as many surgeons believe. I once had a very strong demonstration of this fact; I was performing the operation for femoral hernia, intending to divide the stricture external to the peritoneal sac, and having, as I believed, divided the stricture, I attempted to reduce the hernia; I could not, however, succeed, but still felt unwilling to open the peritoneum, and therefore divided some fibres of Poupart's ligament, and afterwards Gimbernat's ligament, but both without effect. My only alternative now appeared to lie in opening the sac, and incautiously proceeding to do so I found that I had not yet exposed it, the fascia propria remaining intact. I at once divided that tissue at the usual point of stricture, and the hernia was directly reduced; in this case, at any rate, proving that the seat of the stricture was in the internal abdominal fascia. As far as my experience has gone, after 25 years' practice at Guy's Hospital, I should say that the prognosis in femoral hernia is more favourable than in any other species, particularly when the stricture is divided internal to the peritoneal sac; a modification of the operation which, indeed, I have found more easily effected than in the other kinds of protrusion. The after treatment of femoral hernia does not in any respect differ from that in the inguinal; you must not employ purgatives, but leave the bowels to their natural action, as the peristaltic motion produced by cathartic medicines interrupts the progress of the reparation set up by nature for the restoration of the parts.

I shall describe to you, gentlemen, some of the difficulties which are met with in cases of femoral hernia, and do my best to inform you of the means which are to be employed to avoid and overcome them. In the first place, be most cautious in your diagnosis, and, however certain you may feel as to the true nature of the tumor, always commence the operation rather with the deliberation of one about to enter upon an exploration, than with the confidence only admissible under circumstances of indisputable certainty.

Although it is easier to distinguish a femoral than it is an inguinal hernia, yet there are abnormal conditions relating to the seat of femoral hernia, which complicate its diagnostic marks. An enlarged gland in the upper part of the thigh concomitant with sickness and obstruction in the bowels, may offer great difficulty as to the mode of proceeding. If, under these circumstances, the symptoms be of recent occurrence, and delay, therefore, admissible, internal remedies may be first had recourse to, and the taxis employed; but should the obstruction have existed for a considerable length of time, and the patient be consequently in danger, an exploring operation should be no further delayed. Supposing an enlarged gland be exposed, it should be removed, and the investigation continued; for it is very probable that, under the described circumstances, a hernial tumor may yet be discovered behind the enlarged gland. Sir Astley Cooper mentions a case, in his published lectures, of a patient being admitted into Guy's Hospital, with a strangulated femoral hernia, to which he had had a poultice applied for three days, under the supposition that it was a bubo. When the operation was performed, the intestine was found in a state of gangrene, and the patient died. Another case is mentioned, in which a surgeon not only poulticed, but also opened a femoral hernia, believing it to be abscess, and the patient died two days after. I witnessed the same mistake in Norwich, several years ago, but in that case the patient survived, and the artificial anus proved only a temporary inconvenience.

Psoas abscess and femoral hernia may coexist, and should exploration be necessary from the continuation of hernial symptoms after proper remedies had been ineffectually administered, the surgeon is not only justified, but bound to investigate the nature of the swelling by surgical exploration. Varicose veins, or tumors of any kind in this region of the thigh, may lead to the necessity for similar treatment as in the cases alluded to. I must again also caution you, gentlemen, not to confound inguinal with femoral hernia; for, if in either case the one be mistaken for the other, neither the force employed in the manipulation by the taxis, nor the surgical operation for the division of the stricture, will be applicable to either indiscriminately.

In making the first incision, without due caution you might easily wound the saphena major vein; you should therefore always previously ascertain the precise position of that vessel. Immediately under the skin you may meet with some difficulty, in consequence of the presence of enlarged absorbent glands, which may require to be removed to enable you to prosecute the further steps of the operation. The fascia superficialis you will also sometimes find much thickened, at others much attenuated, and you should be prepared for this variation, or you may in some cases hardly recognize the structure when exposed to view, and may go on dividing the fascia into several layers, so as to complicate the operation, and preclude the possibility of knowing how far you have proceeded. The laying open the sheath of the femoral vessels is in all cases a difficult part of the operation, as that tissue is not very easily distinguished, either from the superficial fascia, or from the hernial sac. Usually, however, a large vein will be found between the sheath and the superficial fascia, and some fat between the sheath and the sac, (the peritoneum) but where neither the one nor the other be present, great caution is required. The division of the stricture is very embarrassing to a young operator, from the great depth of the constriction, and in passing the director under it, it must be pushed deeply backwards in the thigh, before it is directed upwards under Poupart's ligament. In femoral hernia I have found the division of the stricture external to the sac more frequently effective than in inguinal, but it requires some caution in pushing the contents of the sac into the abdomen, that the sac and contents do not all go up together, ("en bloc") and thus at once convert an external into an internal hernia—a result which would most probably terminate fatally. I once had this misfortune occur to me, and the post-mortem examination proved the fact,—even in the common application of the taxis only, it has been known to result. If compelled to open the sac, you will generally find that a considerable quantity of fluid escapes, sometimes before, but more frequently after the stricture has been divided. I have seen so much flow out as to give rise to some apprehension that the intestine had been wounded —an accident more likely to occur in femoral than in any other species of hernia.

Umbilical hernia, or *exomphalos*, is a protrusion of a portion of the contents of the abdomen through the umbilical ring: it is subject to exactly the same conditions as other herniæ—that is to say, it may be either reducible, irreducible, obstructed, or strangulated, and to obstruction it is more especially liable. If common precaution be exercised at the commencement of this disease, all ill effect may easily be prevented; for it is generally reduced with great facility, and the simplest mechanical means is sufficient to retain it within its cavity. Infants are most liable to this hernia, owing to the large size of the umbilicus at that early age, and even at birth umbilical herniæ are not by any means unfrequent. This congenital tendency may, however, be easily overcome by judicious management.

The parts called the umbilicus are in a different condition to other organs of the human body: the navel is, indeed, merely a cicatrix, produced by the healing of an opening through which in fœtal life an apparatus had passed, for the purpose of maintaining a communication between the mother and child. At the time of birth, this medium of connection is severed close to the infant, and as the divided part heals it leaves a permanent cicatrix, which always remains a weak point in the parietes of the abdomen. At its commencement an umbilical hernia usually presents a rounded projection at the navel, but in thin persons soon acquires a pendulous character. The neck of the hernia is usually above the centre of the umbilical ring, and consequently also above the remains of the umbilical vessels. The coverings of this hernia are—skin, superficial fascia, internal abdominal fascia, and peritoneum; but if the hernia be very large, and have existed for some length of time, the cicatrix of both the superficial fascia and internal abdominal fascia may have become completely absorbed; and in that case the skin and peritoneum would alone be left as the hernial coverings: hence, it is obvious that the greatest care is necessary in making the first incision in the operation for strangulated umbilical hernia.

The operation is commenced by making a vertical incision two and a half or three inches in length, according to the size of the tumor. It must commence above the tumor, about one half its length being in the linea alba, penetrating through the skin and superficial fascia, and the other half extending across the tumor itself, dividing the skin over the protrusion. When this is accomplished, the linea alba must be laid bare as far as the upper section of the first incision extends: the tendon must be carefully perforated, and the director passed between it and the internal abdominal fascia downwards to the umbilical ring. The hernial knife is then introduced along the groove of the director, or upon the finger, which is perhaps the safer and more convenient method, and the stricture cautiously divided. When the constriction is thus relieved, the sac should, if possible, be emptied of its contents, but never itself opened, unless in cases of extreme necessity. To my colleague, Mr. Key, is due the credit of having devised the plan of passing the director through the linea alba above the hernia, so as to divide the stricture by an incision made from above downwards, instead of commencing from below: by this means we gain the important advantage of exposing with certainty the internal abdominal fascia, and securing the division of the stricture, without risk of injuring the peritoneal sac—an accident which is almost unavoidable if the operation be performed in the usual manner. I always adopted the plan just described; but, having in one instance failed in endeavouring to empty the sac after I had divided the stricture, I continued my incision upon the tumor, intending to open the sac itself; but as soon as I had exposed it, by cutting through its fascial covering, it suddenly became flaccid, and the contents were readily returned. Since this case I have so far modified Mr. Key's method as to always continue my incision along the upper portion of the tumor, and I believe that the division of the skin from the circumference of the umbilical ring facilitates the liberation of the stricture, and tends also to set free the neck of the hernial sac: at any rate, I should strongly recommend, that, where Mr. Key's method does not succeed, the effect of prolonging the incision should always be tried before the sac be opened, as it is in opening that membrane that the greatest danger is to be apprehended, and this perhaps more particularly the case in umbilical than in any other kind of hernia.

Some time since I was requested by Dr. Williams, of Tavistock Square, to visit a lady about 60 years of age, weighing at least 20 stone, who was the subject of a large umbilical hernia which had been irreducible for many years, and had become either strangulated or obstructed five days before. The case was rendered somewhat complicated by the existence of a large inguinal hernia in the right side; but the latter was reducible, and free from pain or tension. I therefore proposed operating on the umbilical tumor, which was consented to. I made my incision in the course of the linea alba an inch and a half long, terminating half an inch above the tumor, and easily exposed the internal abdominal fascia: I made an opening into it, and, passing my finger between it and the peritoneum downwards to the point of constriction, divided the stricture, but was still unable to empty the sac. I therefore continued my external incision through the skin for the remaining half inch, and also for an inch on the tumor itself; and the moment I had divided the abdominal fascia of the hernia, the sac became flaccid, and a large portion of its contents receded into the abdomen. Two hours after the operation the patient had a copious motion, and a second shortly after, uninduced by purgatives; but on the third day symptoms of sloughing omentum supervened, and on the ninth day after the operation the patient died.

Sept. 29, 1837, I operated on an old woman, aged 79, at Guy's, for strangulated umbilical hernia, of which she had been the subject for fifty years, but, three days previous to her admission, a fresh portion had descended and become strangulated. I did not open the sac, and could not relieve the stricture until I had divided the abdominal fascia covering the hernia itself, as in the last case; but directly this was effected, the protruded intestine was readily pressed back into the abdomen, and the patient recovered without a single bad symptom.

Some years ago I saw Mr. Callaway operate for umbilical hernia on a woman aged 55, who had had fifteen children. The tumor was of very large size, and the greater part of it had existed for upwards of twenty years, but a fresh portion had descended four days before her admission into Guy's. The swelling felt as hard as if it contained some solid viscus, and was so large as to occupy the middle third of the abdomen: the upper portion was soft, and seemed to contain the newly protruded intestine; the larger and harder portion we both believed to contain consolidated omentum. We considered it a very unfavourable case for the operation; but Mr. Callaway felt it right to give the patient the only chance there was of saving her life. He commenced his operation by making an incision vertically along the upper third of the tumor; and, cutting through the skin, an inch in depth of fat, and the superficial fascia, he was enabled to raise the tumor sufficiently to expose the umbilical opening and the neck of the sac, covered by the internal abdominal fascia. Through this fascia he made a small opening (leaving the peritoneal covering intact), and then divided the stricture, at the same time enlarging the umbilical ring for nearly an inch. The hernial sac, however, remained as tense as before: he therefore passed the probe-pointed bistoury again between the sac and the internal abdominal fascia, and, cutting downwards along the tumor, freely laid open its fascial covering, when the sac became at once relaxed—satisfactorily proving that the stricture resulted as much, at any rate, from the fascial covering of the hernia as from the fascia of the ring itself. Although this patient had alvine excretions she sunk the next day; but a post-mortem examination was not permitted.

The after-treatment of umbilical hernia is similar to that which is followed after the removal of the mechanical cause of obstruction to the intestines in every other species of hernia: the patients, however, less frequently recover from the operation.

Ventral hernia may occur in any part of the abdomen, but more generally in the tendinous than in the muscular parietes. When it occurs in the course of the linea alba above the umbilicus, the symptoms usually indicate interference with the functions of the stomach. This has sometimes led to the supposition that that organ was itself protruded, but no record of any such phenomenon is to be found, and the derangement of the stomach depends upon its proximity to the protruded viscus, and from the dragging action of the omentum upon it when either that structure or the colon constitute the contents of the hernia. The only cases in which I have known the stomach to be the subject of hernia were where there existed malformation of the diaphragm; and, under those circumstances, I have seen both the stomach and the arch of the colon within the chest. Ventral herniæ sometimes traverse the linea semilunares, and are placed under precisely the same conditions as when they perforate the linea alba, the disturbance experienced in the functions of the intestines forming the diagnostic marks in both cases. It sometimes happens, however, that small fatty tumors (steatomata), are formed in different parts of the abdominal parietes, and these may easily be mistaken for hernial protrusions, especially if they happen to be concomitant with any interruption to the function of the bowels; and, if in that case the medical treatment failed to restore the bowels to their healthy condition, it would be proper to cautiously cut down upon the tumor, to investigate its character. It is stated that steatomata may always be recognised by their doughy feel and lobulated form; but the existence of these physical signs ought not to prevent the exploration of the tumor under the circumstances I have mentioned; for, in addition to the abnormal formation of fat, there may be protrusion of intestine or omentum, and even the latter may cause all the symptoms of hernia.

When ventral herniæ are irreducible, bandages or trusses must be worn to prevent their recurrence. If irreducible, they require some mechanical apparatus to prevent further protrusion, and to defend the parts from external injury. If strangulated, they require to be relieved by operation; similarly indeed to every kind of hernia. Ventral herniæ, however, differ in some degree from other abdominal herniæ in one respect: instead of passing, as the latter, through large natural openings, they project through small perforations normally intended only for the transmission of minute vessels, and which become sufficiently enlarged, from some accidental cause, to admit of visceral displacement. Operations for ventral herniæ are not frequently attended by a successful result.

RELATIVE MORTALITY FROM AMPUTATIONS IN THE HOSPITALS OF ENGLAND, FRANCE, AND THE UNITED STATES.

For London the cases amount to 107, and the deaths to 28, or 26·16 per cent.

For Paris, according to M. Malgaigne, the cases amount to 560, the deaths to 299, or 53·39 per cent.

For Philadelphia, Boston, and New York, according to Dr. Buel, the cases amount to 237, the deaths to 53, or 26·58 per cent.—*Dr. Buel, in American Journal of Med. Sciences*, July 1848.

Original Communications.

A COLLECTION OF FACTS ILLUSTRATIVE OF THE

MORBID CONDITIONS OF THE PULMONARY ARTERY.

AS BEARING UPON THE TREATMENT OF CARDIAC AND PULMONARY DISEASES.

By Norman Chevers, M.D.
Assistant Surgeon, Bengal Army.

[Continued from p. 449.]

Mr. Curling, of the London Hospital, has most kindly furnished me with the following highly interesting narrative of a case of traumatic diffused aneurism of the right branch of the pulmonary artery. The patient was admitted under the care of Mr. Luke.

"Edmund Taylor, a healthy and muscular young man, aged 23, was brought to the London Hospital about 5 in the morning, Sept. 30, 1838, having been stabbed in the chest with a long clasp-knife a short time previously. The wound was about an inch in extent, and situated at the front and upper part of the right side of the chest, near the junction of the cartilage of the third rib with the sternum. I was informed that instantly after its infliction there was a profuse hæmorrhage, and that the patient coughed up almost immediately a considerable quantity of blood. When admitted he was very faint, and there was a slight oozing of blood from the wound, but this ceased after the edges had been brought together with adhesive plaster. His breathing continued afterwards to be much oppressed, and for two days he coughed up occasionally a small quantity of blood. Pneumonia supervened, but it was checked by general and local blood-letting, and by antimony and mercury exhibited until the mouth became affected. He appeared to be going on tolerably well, when, on the eleventh day after the injury, he was seized with a fit of coughing, and upwards of sixteen ounces of blood suddenly gushed out from the wound. From this period there was a daily hæmorrhage, varying in quantity from one or two ounces to four or five; and he frequently expectorated small clots of blood. The blood which issued from the wound was thin, and sometimes mixed with matter like pus; and air always escaped when the part was dressed. Digitalis, the acetate of lead, and other remedies, were given to check the hæmorrhage, but with no effect. The patient got gradually weaker; and being exhausted by the daily losses of blood, died on the 29th day after the injury.

"The body was examined the day after death. It was much wasted and exsanguineous. The knife had passed in an oblique direction, dividing the cartilage of the third rib, and entering the chest a little to the right side of the anterior mediastinum. The whole of the front part of the middle lobe of the right lung was converted into a false aneurismal sac. There was a large irregular cavity, filled with coagulated blood, part of which was in layers, and deprived in a great degree of the red particles, and part loose and soft, and of a greyish-red colour. There was also a small quantity of coagulated blood. At the bottom of this cavity, towards the heart, was distinctly perceived an opening in a large vessel, capable of admitting a full-sized goose-quill;—the aperture communicated with the right branch of the pulmonary artery just as it divides into several branches for distribution throughout the lung. The pulmonary tissue surrounding this false aneurism was hepatized; and there were firm pleuritic adhesions on that side of the chest. The pericardium contained about three ounces of turbid serum, and there was a thin layer of loose lymph coating a great part of the heart. The left lung and the abdominal viscera were sound. The mammary artery was untouched, but the small intercostal vessel communicating with it was divided.

"It will perhaps excite some surprise that a considerable wound of one of the two main branches of an artery transmitting the whole of the circulating fluid of the body, should not have been attended with such a loss of blood as to have destroyed life in a short period. A wound of the same extent in the arteria innominata or common iliac arteries, less in size than the vessel wounded in this case, would no doubt have proved fatal in a few minutes. The safety of the patient may, however, be ascribed to the inferior power of the right ventricle of the heart as compared with that of the left. In the collapse which resulted from the profuse hæmorrhage consequent upon the wound, we may conclude that coagulation took place,—that the opening in the right branch of the pulmonary artery became closed, and bleeding arrested for a time. The action of the right ventricle, reduced by the hæmorrhage and the treatment afterwards pursued, appears to have been insufficient to disturb the false aneurism which had formed in the substance of the lung; but unfortunately it was subsequently ruptured in a violent fit of coughing. Although the aneurismal sac was of some considerable size it was smaller than might have been expected, considering the magnitude of the vessel wounded,—its near approximation to the heart,—the duration of life after the injury,—and the soft vascular and unresisting nature of the tissue which formed the parietes. But this circumstance may perhaps be explained by the inferior propulsive power of the right ventricle. A false aneurism of the aorta, under similar conditions, if not sooner destructive to life, would, I think, have attained in the same period a very much larger size. At the time that the bleeding recurred, eleven days after the infliction of the wound, the lung had been consolidated by inflammation. It was enabled, therefore, to offer considerable resistance to the effusion of blood and the extension of the aneurism."

It is singular that, while so much has been written upon the subject of injuries to the lungs, so few facts should have been hitherto elicited with regard to the precise manner in which lacerated and punctured wounds of branches of the pulmonary artery heal. It is probable that their closure is usually effected by the gradual infiltration of blood into the surrounding tissue of the lung, as well as by the collapse of that organ consequent upon the presence of blood or air within the pleura, aided by the depressed state of the circulation which results from the hæmorrhage, and from the depleting plan of treatment which is usually adopted. In gun-shot wounds, the closure of the vessels is doubtless greatly aided by the contused condition of all the tissues.

RUPTURE.

Rupture of the main trunk and larger branches of the artery has been known to occur in several instances. This lesion appears usually to result from a diseased condition of the vessel, and is a far less frequent consequence of severe crushing injuries to the chest, than is rupture of the thoracic aorta. In the following case, however, the laceration appears to have been produced by a violence of this description :—

A healthy, robust youth, ætat. 22, was, in a scuffle, wounded in the neck ; he fell down on the spot, and died almost directly. Very little blood flowed from the wound. On dissection, the wound was found to have penetrated two inches in depth, passing between the trachea and left subclavian vein, but neither these or any other important parts were injured. Nearly five pounds of black coagulated blood were found in the left bag of the pleura ; the cavity of the pericardium also contained a quart of clotted blood. This membrane exhibited an irregular rupture, nearly two inches in length, at the point corresponding to the root of the left lung ; the *pulmonary artery* was found to have given way just beneath the point where the pericardium is reflected upon this vessel : its parietes did not, however, exhibit any traces of morbid change.[*]

The following case has been recorded by Mr. Wm. Gunn, R.N. :—[†]

A seaman, ætat. 46, after suffering from pain in the head, extending down the neck and arm to the hand, which was benumbed, while making some considerable exertion, fell back without speaking, and in a state of exhaustion, from which he never recovered. On opening the chest, the left side was found completely full of blood, the lung being collapsed under the pressure. A rupture existed in the *pulmonary artery* about half an inch from its origin, and large enough to admit the point of the little finger. The artery was diseased at the point where it had given way.

Two highly interesting cases of rupture of the trunk of the pulmonary artery have been fully detailed by M. Ollivier.[‡]

A remarkable instance of this lesion has also been recorded by Mr. J. Adam, jun.[§]

The patient was a man of debilitated constitution, 52 years of age, who, for some time previous to his death, had been subject to various uneasy feelings, referred to the region of the stomach and head, with general derangement of the digestive functions, and latterly to irregular action of the heart, accompanied sometimes with a sense of constriction across the chest, increased on using any corporeal exertion, or too frequent indulgence in spirituous liquors. Latterly, when the fluttering action of his heart became distressing, he was obliged to have recourse to the recumbent posture for relief. Death occurred suddenly. On opening the thorax, a large quantity of dark grumous blood gushed out from the right pleural cavity, which was nearly filled with the effusion. Two polypi or coagula of blood were found in the right ventricle. The valves of the *pulmonary artery* were in a state of ossification. This vessel was extremely thin, and enlarged to nearly four times its natural size, being not less than seven inches in circumference. It contained an organized polypus, extending from the semilunar valves about four inches along the artery. A rupture had taken place in the "middle" of the artery, and it appeared that there was an opening in the centre of the polypus, through which the blood seemed to be transmitted from the ventricle to the lungs and aorta, and other large vessels issuing from its arch were completely ossified. A similar condition of disease also extended throughout the remaining portion of the aorta. There was no apparent disease of the lungs.

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[*] Medico-Chirurgical Review, July, 1848. From the Archives Générales.

[†] Edinburgh Med. and Sur. Journal, January, 1829, and LONDON MED. GAZETTE, Vol iii. p. 545.

[‡] Dictionnaire de Med. : art. Vaisseaux Pulmonaires.

[§] In the Calcutta Medical Transactions, Vol. ij. p. 115.

Mr. Fearn, of Derby, has published notes of the case of a man, ætat. 63, who had been troubled with a cough for a long time, but in whom stethoscopic examination revealed nothing beyond the evidences of general bronchitis. The patient was suddenly seized with a tremendous attack of hæmoptysis. The bleeding, however, was restrained for a while by appropriate remedies, but it again returned, and the patient died from exhaustion, nearly four days after the first attack of hæmorrhage. On examination after death, it was found that the right *pulmonary artery* was ruptured, just at its entrance into the lung, and the pulmonary tissue was broken down by the quantity of blood which had been poured into it. There were no tubercles, nor any other adventitious deposit, in either lung.*

A case of sudden death from rupture of the pulmonary artery, is alluded to by M. Devergie, (Médecine Légale, t. i. p. 66). And another, occurring in a man 54 years of age, is noted in the Sixth Annual Report of the Registrar-General (p. 288.)

Ulceration.

The coats of the pulmonary artery occasionally become eroded and perforated in cases where aneurismal tumors of the arch of the aorta greatly encroach upon this vessel. A similar lesion is also produced in certain cases of phthisical disease; and sloughing of branches of the artery has occurred, though by no means frequently, in cases of pulmonary gangrene and pneumonic abscess.

In cases of aneurism of the arch of the aorta, especially where the dilatation principally affects the under and back part of the vessel, an ulcerated or ruptured communication is liable to be formed between the pulmonary and systemic arterial trunks. The lesion is, of course, by no means one of frequent occurrence, but several instances of the kind are upon record, of which the following appear to be most characteristic:—

Dr. Wells relates the case of a merchant, 35 years of age, who had suffered from apparent premonitory symptoms of phthisis, and from a slight attack of hemiplegia, which, however, had passed away when he consulted Dr. W. He then suffered from a noise in his ears, flatulence, and pains in his hands and feet, occasionally attended with slight swelling in the same parts. He did not complain of any unusual feelings in his chest. After considerable fatigue in walking, he was suddenly seized, between 8 and 9 o'clock P.M., while playing with his children, with a sense of great oppression in his chest. He soon after became sick, and vomited a matter streaked with blood. The surface was cold. Soon after midnight he was found labouring under a constant desire to cough, and was continually expectorating mucus tinged with blood. The body was moistened with a cold sweat, and his pulse was extremely feeble: sometimes it was scarcely perceptible. At 5 A.M. his pulse was very feeble and irregular; his breathing difficult; skin pale, cold, and covered with a clammy sweat; and he frequently tossed and writhed his body as if suffering great pain or uneasiness. The faculties of the mind seemed unimpaired. About a quarter of an hour later he became suddenly worse, and in a few minutes expired. Almost immediately before his death, he complained much of heat in his chest.

Autopsy, two days after death.—The blood-vessels of the lungs were very much distended, and there was also a considerable quantity of blood in the air-cells. Each cavity of the chest contained about ten ounces of a fluid highly tinged with blood. The pericardium contained about two ounces of a fluid similarly tinged. The tumor adhered to the *pulmonary artery* just before its division into the right and left branches. Within the circumference of this adhesion there was a narrow hole, by means of which a communication was formed between the two arteries. The cavities of the heart and great vessels were very much distended with blood.*

The following nearly parallel case is related by Dr. J. Reid:—

A gentleman, aged 53 years, who had been for some months complaining of slight bronchitic symptoms, with some precordial uneasiness, was suddenly seized with violent dyspnœa, rapidly followed by insensibility, and in about four minutes from the commencement of the attack he was dead.

On examination 48 hours after death, the heart and all its valves were found healthy. That portion of the arch of the aorta between the upper part of the sinuses of Valsalva and the origin of the arteria innominata was dilated into an aneurism capable of holding the fist. The dilatation chiefly projected to the left side, and there the coats of the artery were not only irregularly thickened, but contained numerous yellow patches. The left side of the aneurism adhered firmly to the trunk of the *pulmonary artery*, and a ragged irregular fissure, nearly an inch and a half in length, formed a communication between them. The aneurism contained only a few small clots of fibrine. The lungs contained a very considerable quantity of blood, and some serum.*

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* Provincial Medical Journal, and Med. Times, Nov. 15th, 1845.

* Trans. of a Society for the Improvement of Med. Chir. Knowledge, vol. iii. p. 85.

Although the particulars of the following case are detailed at considerable length, it is difficult to learn, from the description, whether the arterial lesion was primarily due to aneurism of the vessel or to erosion of its tunics. The rupture of so large an artery could scarcely have occurred under the circumstances.

Mr. ———, ætat. 36, of a consumptive family, suffered more or less from symptoms of phthisis from the autumn of 1841 to November, 1842, when he was attacked with active hæmoptysis. The blood was coagulated, and expectorated without effort. At the end of a month he sank from the exhausting effects of the hæmorrhage.

Examination.—There were adhesions between the pleura of the left side. The pulmonary pleuræ of both sides presented the peculiar spotted appearance which results from strumous deposit. The upper part of the left lung was entirely occupied by a large cavity containing about half a pint of grumous and coagulated blood. The walls of this cavity were composed of the parenchymatous structure of the lung, condensed and solidified by pressure. Upon careful examination, the left branch of the *pulmonary artery*, at the distance of two inches from its bifurcation, was found to open into this cavity by an aperture as large as a crow-quill. The communication of the artery with the abscess was considered to be the result of the coats of the vessel giving way, rather than the effect of the ulceration of the abscess, as the opening from the artery was funnel-shaped, and terminated in the smallest possible aperture. The trunk of the pulmonary artery was so large as at first to be taken for the aorta, for it had a complete curvature to the right as high up as the left clavicle. It was thought that this dilatation of the vessel was perhaps attributable to pressure of the cyst upon one of its main divisions. The patient had suffered from difficulty of breathing from childhood; but it is not mentioned that marked dyspnœa was one of his later symptoms. Indeed, the narrative does not clearly prove that the left division of the artery had been greatly compressed by the abscess.†

In some cases of congenital defect, where the arterial duct remains permanently open, the aorta and pulmonary artery are found perfectly in apposition, and communicating by a wide opening of somewhat irregular form. In distinguishing such cases, it will be necessary to observe whether the aorta is dilated at that spot, and especially to remark whether the valves and trunk of the pulmonary artery are thickened and opaque; as, where a communication has long existed between these vessels, the pulmonary artery usually takes upon itself much of the functions of the aorta, while its structures assume an appearance closely resembling those of the systemic artery.

In addition to the cases mentioned above, four preparations (numbered 14, 15, 87, 102) of the lesion under consideration are stated to be preserved in the collection at St. Bartholomew's Hospital; and one (No. 366) in the Hunterian Museum. A case in which an aneurism opened into the pulmonary artery has also been recorded by MM. Payen and Zeinck.* Another instance has also been contributed by M. Sue.†

Dr. Lee observed that, in a case where a large branch of the pulmonary artery opened into the cavity of a phthisical abscess, the vomica was not lined with that peculiar membranous structure which usually invests the walls of cavities of this class.‡

It is not usual for the arterial branches which pass upon the sides of pulmonary vomicæ to become occluded by coagula. It is probable that in these cases, wherever hæmorrhage occurs from the corrosion of a large vessel which has not previously become aneurismally dilated, the perforation of the artery is due, either to sloughing of the interior of the abscess, a not unfrequent occurrence in phthisis, or to the absence of that solid deposition which usually lies beneath the pyogenic membrane of phthisical cavities.

I was present at the examination of the body of a man, ætat. 58, who died, February 4th, 1845, in the accident ward of Guy's Hospital, from the secondary effects of a fracture of the elbow-joint. He had suffered from bronchitis, with fœtid expectoration, for some time previous to his death. The walls of the right ventricle were rather thin. Nearly the whole of the posterior portion of the right lung was in a boggy condition, the result of a low form of pneumonia; the pulmonary tissue being in this situation generally infiltrated with abominably fœtid sanies. This portion of the lung contained several cavities, one of which opened into a circumscribed cavity in the pleura; the lung surrounding this opening was in a sloughy condition. The trunk of the *pulmonary artery* was rather wide, and decidedly thin. Its surface was free from stain or deposit, but dull. The tissues of the vessel which traversed the diseased lung were generally softened, especially in the inflamed parts. Several branches, rather larger than crow-quills, were more or less obstructed by dark adherent clots. In some branches these were evidently old, and nearly absorbed,—the vessels again beginning to be permeable by blood; in others, the clots produced complete obliteration, and were adherent to the entire circumference of the arteries which they occupied. Throughout most of the inflamed parts, however, many branches of the vessel remained perfectly free. A very considerable arterial branch was almost completely obliterated in two places by the pressure of cavities on either side. At each of these spots the vessel scarcely equalled a whipcord in circumference. The contracted portion which was most distant from the heart, was partially obstructed by some whitish fibrine, and the lining membrane of the other strait was vividly and deeply reddened, evidently by an intestritial effusion of blood. This vessel may have been capable of transmitting a very slender current of blood. The lesions which it presented did not appear to be particularly recent, being, in all probability, of several days' standing.

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* Edinburgh Med. and Surgical Journal, vol. liv. p. 114.

† Mr. W. Crowfoot, Jun., of Beccles; Med. Chir. Transactions, 2d Series, vol. viii.

* Bulletin de la Faculté de Méd., 1819.

† Journ. de Méd. Contin. t. 24, p. 124.

‡ Dublin Medical Journal, vol. xxv. p. 168.

Another branch, of equal size, presented traces of severe inflammatory change, at a spot where it lay in the close vicinity of a sloughy cavity. Here the interior of the vessel bore traces of circumscribed thickening; its lining membrane was blackened, as if from the interstitial effusion of blood which had become partially absorbed. The centre of this discolouration presented a raised whitish defined spot, where the tissues of the vessel had lost their cohesion and appeared to be in a sloughing condition; the diseased tissue was not, however, sufficiently softened and detached to allow of hæmorrhage. This position of the artery was not defended by adherent coagulum: a small band which it gave off appeared to have been obliterated by fibrous deposit; but, although this had become nearly absorbed, the vessel still remained so greatly contracted as to be almost impervious.

It is probable that, had this patient's life been protracted for a day or two, or had the force of his circulation been greater, the separation of the sloughy portion of the artery would have been followed by fatal hæmorrhage.

[To be continued.]

LATIN EXAMINATION AT APOTHECARIES' HALL.

We are requested to announce that there will be a preliminary Latin examination at Apothecaries' Hall on the first Thursday in every month. Students may obtain information on application at the Beadle's office.

ON THE ATROPHY OF PARALYSIS, AND THE MEANS OF PREVENTING IT.

By William Frederick Barlow, M.R.C.S.

Mr. Paget, as the readers of this journal must know, has directed attention to the atrophy of paralytic limbs in his Lectures delivered in the Theatre of the Royal College of Surgeons; and very ably and fully insisted on the good effects which would result from forcing, by some mode or other, the paralysed parts into involuntary action. I have endeavoured to call attention to the same subject in the first volume of Dr. Marshall Hall's Observations in Medicine; it is one, as too many shrunken limbs will testify, of no inconsiderable moment.

There is no law in physiology better known than that of the existence of the nicest possible relation between the action and the nutrition of muscles; and everybody knows that *protracted* rest is a cause of their atrophy; exercise, of their nourishment; over-action, of their hypertrophy. And this law is one form of the expression of the truth, that life must, to be perfect and fulfil all that it can accomplish, be a busy and energetic life.

No one has more explicitly insisted on the benefit derived to muscles from their action, than John Hunter,—no one more interestingly; and I may allude to his observations on the "colour of muscles, the swelling of muscles, and the effects of habit on muscles."* Painters and sculptors, he says, know and represent the effects of action, and pourtray Charon and Vulcan with large shoulders and brawny arms. But the application of the fact, that action is indispensable to healthy nutrition, remains to be fully made, for no one will deny that muscles are daily permitted to waste from disuse, which, if compelled at regular and proper periods to act involuntarily, would either not waste at all, or waste to an incomparably less extent. Dr. John Reid has shown how a frog's muscles may be nourished by galvanism, notwithstanding their being cut off from the nervous centres. I have seen cases of paralysis (as others must have done) wherein the nutrient operation of this powerful agent was extremely marked. This operation, considered by *itself*, would suffice to make galvanism of the greatest value in the treatment of paralysis; but galvanism has been too much used for what it cannot, too little for what it *can*, accomplish. It is, in general, the best of all the modes of producing involuntary action; it is the most sure, the most manageable, and by far the most widely applicable, since it acts where no motions can be excited otherwise. It was this reflection that led me to suggest that it should be used for the express purpose of preventing atrophy; and I think the reader will be inclined to agree in what Mr. Bowman has said of its power to do so.* But where and how far it can be made available in this respect is, strange to say, a matter still in need of close inquiry.

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* See Works of Hunter (Palmer's Edition.) Vol. iv.

I have suggested also that reflex actions might be employed to prevent atrophy,† and, since then, have had occasion to observe, that limbs which remained very fairly nourished so long as such motions can be excited in them, began to waste quickly when they could be provoked no longer. But, on this point, I would refer to a case in which Mr. Paget (led by his conclusions from Dr. Reid's experiments) recommended their excitement with the direct view of causing nutrition, and, apparently, with good result. Though far less generally applicable than galvanism, they may be very valuable if easily to be excited, and even preferable to galvanism in certain cases, as in that of a child, to whom the latter gives no trifling distress where sensation remains in the part operated on. Direct involuntary actions tend to nourish, and much more, probably, than is yet suspected. Cramp, if it happens often, may greatly influence the size of a limb, as has been lately proved very interestingly by a writer in the April number of the British and Foreign Medico-Chirurgical Review. Moreover, as Mr. Bowman shews, by reference to the disease so admirably described by Pott, a voluntary muscle may so augment through involuntary motion, variously caused, as to "appear hypertrophied." In a word, it is *use*, *not the manner of it*, which nourishes a muscle. Emotion may, clearly, subserve nutrition; and I have lately seen a case of long-enduring paralysis, in which the paralytic muscles were evidently nourished to some extent through being frequently contracted therewith. Nor is it absurd to suppose that the aimless movements of paralysis agitans may, in *some* severe cases of the affection (*literally* cases of paralysis with agitation) aid considerably in checking atrophy.

As a rule, the degree of atrophy in paralysis is in the ratio of its completeness; but the most complete *cerebral* paralysis which can occur, may not be attended by any loss of nourishment, because of the frequently-occurring motions, of one kind or other, which are dependent on the spinal marrow. Again, injuries of the cord which are attended by a paralysis in which spasms occur, or reflex actions can be excited, do not cause the same wasting of parts as those accidents which effectually exclude the muscles from the influence of the nervous centres. Dr. Marshall Hall has shewn that irritability may be a test of *cerebral* paralysis, as distinguished from *spinal*; and I have had the opportunity of seeing him employ it. The state of the nutrition of the muscles may, as it seems to me, also help our diagnosis. For instance, if in a case of very *long*-standing and complete paralysis, the muscles be not lax and flabby, but, on the contrary, well nourished, and this in the absence of any measures having been taken to excite them to motion,—we may infer that some involuntary action must have occurred from time to time to prevent their atrophy, and if so, the paralysis is *cerebral* only. But, on the other hand, muscles may greatly waste, and yet be connected with the cord, so that atrophy is of course no proof of paralysis being *spinal*. An atrophied and paralytic muscle may be more susceptible of the galvanic current than its healthy fellow, as Dr. Hall has shewn. But the most favourable condition of all for excess of irritability is, I think, that in which the muscles are excluded from cerebral influence, yet still connected with the spinal cord, and have enough of motion to nourish, too little to exhaust them. This opinion is in no wise inconsistent with the fact that, under *opposite* circumstances, atrophied muscles may be found more susceptible of galvanism than those that are well nourished. The matter must be treated as a whole. In no case is the frog more irritable than in early spring, nor ever under a happier conjunction of circumstances for the manifestation of irritability in the extreme. The temperature is favourable, the muscles are well nourished, and *yet* have enjoyed the most protracted repose; and it seems plain to me, that most irritability is to be looked for in that state in which the most perfect nutrition, and the longest rest, can be found *together*.

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* See article "Muscular Motion," in Dr. Todd's Cyclopædia of Anatomy and Physiology.

† Dr. Marshall Hall's Observations in Medicine, vol. i.

It must be remembered that in nourishing a muscle, other parts are nourished also:—it cannot be increased alone; the circulation throughout the whole limb is benefitted; there is more demand for blood; there are more elements of growth eliminated; arteries, veins, nerves, the hard bones even share in the muscular increase; and all structures participate in its waste. In some forms of paralysis (as Dr. Gregory says, if my memory serves me) *arteriæ ipsæ paralyticæ sunt;* no wonder that atrophy and degeneration should ensue. Most true it is that we cannot rival the normal ways whereby growth is advanced and nutrition effected, by any artificial proceeding, however ingeniously it may be devised; but we may in some measure compensate a voluntary muscle, for the atrophy which paralysis inflicts upon it by using galvanism *repeatedly* and *moderately*, not *seldom*, and to *excess*. Cases there will be in which the limb may be hard to act upon at first, but the muscles will at length (as I have found) become more irritable, and the results of galvanism are correspondingly encouraging. Instances of *partial* paralysis there are in which it exists in a double sense:—it contracts both by virtue of its own power, and forces the will to strong, successful exercise. I have known a child move its limbs when it was galvanised, and at *no other time*. The reason was plain: it was pained, and used energy to withdraw the part.

There are cases in which it is unusually important to attend to the nutrition of paralysed limbs. Generally speaking, the cases of the young more demand such attention than those of the aged; but it is always indicated wherever there is wasting and a chance of recovery. Let me point to what Mr. Paget has said upon this score, and also to a remark of Andral, who observes that a muscle, from long immobility, may for ever lose its power of contractility. Whether some now hopeless cases of paralysis might not have been classed with recoverable maladies had but the nutrition of the muscular fibre been duly cared for, is a grave but plainly an expedient question.

Not only may recovery from paralysis be rendered needlessly slow and tiresome, by allowing muscles to waste away, but in long-standing cases of this affection, absolutely placed beyond possibility. There may be no efficient muscular fibres spared, but only useless remnants of them.

But in reference to this question of providing for the nutrition of paralysed limbs, I have been much struck by some observations in Dr. West's lectures regarding the consequences of paralysis in early life. There is, as he proves explicitly, an effect of paralysis peculiar to childhood,—"*arrestation of growth.*" Might not this, as well as atrophy, be prevented by galvanism? The same cause, I presume, which leads to atrophy in the adult, leads both to atrophy and arrestation of growth in the child.

Dr. West's table of cases is very instructive; he mentions no less than six in which shortening of the limbs took place.* Here is an instance: a boy, when one year and six months old, was affected with paralysis of the right leg. Nothing was done for it; and when he was three years of age, it was "wasted and *shortened*, but power over it was on the increase."

Supposing a case of this kind wherein the paralysis is completely cured, can anything be done for the lameness consequent on the shortening? A trial should be made at least; and I think it would be right to advise that the *affected* limb should be used *more* than the *sound* one, systematically and perseveringly, or that the motions of the latter should be purposely prevented at certain times during the employment of the former; for perchance, by these means it might be possible to produce an inequality of growth to the advantage of the shortened member. Occasional galvanism, the use of friction, and the sudden application of cold now and then, might also be found useful.

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* Only one of these cases appeared to have been galvanised, and in this (Dr. West says) galvanism "was tried for a short time."

September, 1848.

CASE OF
DISEASE OF THE LARYNX.

By Henry Smith, M.R.C.S.
Formerly House-Surgeon to King's College Hospital.

In the beginning of May, I was consulted by Mrs. P., a married woman, who had before been under my care for secondary syphilis. She now complained of severe pain in the region of the larynx, accompanied with difficulty of breathing and harassing cough. Her voice was reduced almost to a whisper, and it was evident that there was some serious disease in the vocal organ. She also called my attention to a prominent swelling below the right scapula, very tender on pressure, and painful at night. She was very weak and pale, and presented a fair specimen altogether of syphilitic cachexy. From the knowledge I had of her previous history and treatment, I had no doubt that she was labouring under syphilitic ulceration of the larynx, and that the swelling above mentioned was an enormous node of the ribs, although she had been told by various medical men that she had got tubercle, and that she would not live long. I carefully examined her lungs, and found them in a healthy condition, and gave her mild doses of calomel with opium, and quinine, and five grains of the iodide of potassium twice daily. Her mouth became gradually affected by the mercury, but no improvement took place; and the difficulty of breathing was so great, and her voice so hoarse, that I expected I should one day be summoned to her for the purpose of opening her larynx.

On the 30th of May, at 2 P.M., I was hastily called by her husband, who told me that she had been suddenly taken very ill with her breathing, and that he was fearful she would be dead when he got back. I immediately attended, and found her in the following condition:—She was lying on her back in bed, perfectly unable to articulate, except in a whisper, placing her hand on her chest, and complaining of great sense of suffocation; her face very anxious, with the angles of the mouth drawn down, depicting a state of great suffering. Pulse rapid and feeble; hands cold. It appears that she had been sitting up in the morning, more cheerful than usual, but had suddenly become affected in the manner described. My first impulse was to open the larynx, and I expressed to her friends the necessity of this operation, to which they perfectly agreed, and I made preparations for so doing. Whilst, however, they were getting things ready, it struck me that there was not that very great distress which usually exists when life is imminently in danger from suffocation; and, moreover, I observed, that although the face was very anxious, and of a dusky colour, yet there was no absolute turgidity of the vessels. Under these considerations, I hesitated, and poured a glass of brandy down her throat, and determined to get another opinion. My kind and honoured friend, Mr. Fergusson, saw her with me in less than an hour. By this time the patient had rallied somewhat: she was able to speak above a whisper, and there was not that marked distress which was so apparent at first sight. Mr. Fergusson expressed his opinion that the symptoms were not so much due to an obstruction in her breathing, as to a state of syncope; and that, on that account, the operation had better not be performed, at least at present; and advised stimulants and careful watching. She was ordered brandy and water occasionally, a large mustard cataplasm to be applied to the chest, and to steam her throat with hot water. In the course of two hours she was again visited by me: she continued much in the same condition, but had improved somewhat as regards her breathing.

At 10 P.M. there was not so much distress of breathing, although since I last saw her she had suffered one or two sudden attacks of dyspnœa. She complained of pain and uneasiness in the region of the heart, and the larynx was very painful; pulse better. Ordered—continual warm fomentations to the throat, outside and in; a large sinapism to the chest, and the exhibition of nourishing broths, &c.

May 31st.—I was pleased to find this poor woman considerably better: she could articulate more clearly; pulse better; she suffered a good deal of pain in her throat; breathing tranquil, and very little distress. Four leeches to each side of the thyroid cartilage.—℞ Calomel, gr. j.; Pulv. Doveri, gr. v.; Quinæ, gr. j., bis die.

June 1st.—Still better; can breathe freely, and with more comfort; there is still much tenderness over the larynx; the node on the ribs is enormous, and exquisitely painful. — To apply four more leeches to larynx, and take five grains of iodide of potassium twice daily.

From this period she began to improve steadily; her mouth became affected with mercury, and her symptoms gradually gave way one by one, so that in the course of a fortnight she was enabled to walk up to my residence, a distance of nearly a mile. She was, however, at that time in a very weakly condition, and was harassed by cough; but, under the use of increased doses of iodide of potassium, sesquioxide of iron, and the external application of iodine paint to the larynx, she most rapidly improved; and I have lately seen her looking ruddy and fat; the swelling on the side has disappeared, and she can speak with tolerable clearness, although some hoarseness still remains, and, I think, will ever remain, in consequence of the structural change which has evidently taken place in her vocal organ.

I have brought this case before the profession, because it appears to me to present features of peculiar interest, and a description of which one cannot easily find in books; moreover, it was so instructive to myself, that I am willing that it should prove, if possible, instructive to others; for it is here shown how very careful we should be before proceeding to any extreme measure in a difficult and doubtful case. When my patient was seized with her sudden attack, my first impulse (as I before said) was to open her larynx, because the symptoms appeared to me to indicate that measure; and also, perhaps, because I had some time before been expecting to be called to her in such a condition; and thus my mind was somewhat prejudiced in favour of the operation. But acting, as I hope I always shall do, when in doubt and uncertainty, respecting a proceeding likely to involve the life of a human being, I determined to have the opinion of a more experienced person, and thus was prevented from committing what (as matters turned out) at least would have been an unnecessary act, and perhaps a serious error; as it is well known—and I felt this at the time—that the operation of laryngotomy is sometimes attended with immediately fatal results: nevertheless, the symptoms at the time I was called, taking into consideration the history of the case, were sufficiently urgent to induce many persons to adopt the proceeding, and *appeared* to warrant one in doing so; but that they did not do so in reality, is evident from the result of the case.

13, Caroline Street, Bedford Square,
September, 1848.

THE

HEPATIC AFFERENT VESSEL.

(*From a Correspondent.*)

THERE are in the body only three *afferent* vessels, or vessels which take blood *to* parts. The first afferent vessel is the *hepatic*, and consists of the spleen and the splenic and portal vein and its branches. The second afferent vessel is the *pulmonic*, and consists of the right auricle and ventricle, and the pulmonary artery and its branches. The third afferent vessel is the *systemic*, and consists of the left auricle and ventricle, and the aorta and its branches. The hepatic veins are the hepatic *efferent* vessels, and take the blood *from* the liver. The pulmonary veins are the pulmonic efferent vessels, and take the blood from the lungs. The mesenteric veins, and the superior and inferior venæ cavæ, and their roots, are the systemic efferent vessels, and take the blood from the general system. Intermediate between the terminal branches of each afferent vessel and the primary roots of the corresponding efferent vessels are the capillaries, which are *perferent* vessels—that is, take blood *through* parts. All blood-vessels, therefore, are either afferent, perferent, or efferent.

Now I have a word to say on behalf of the hepatic afferent vessel, the most neglected of all vessels, although on Nature's list it is marked *number one*—that is, it is the *first* of the three afferent vessels. It is simply a *vein*, with a *spleen* for its commencement. The pulmonic afferent vessel is an *artery*, with a *heart* for its commencement; and the systemic afferent vessel is also an artery, with a heart for its commencement. If the hepatic afferent vessel had been an artery too, with a heart for its commencement, in the auricle of which the mesenteric veins had terminated, the three afferent vessels would have been all alike, and then the function—that is, the office and action—of the first would have been understood simultaneously with the functions of the other two. There would have been no difficulty at all in the matter then; nor is there much, if any, now. The first thing necessary to its right comprehension is, that the hepatic afferent vessel should have an *admitted* existence as such, which at present it has not, and then it will soon have a recognized use. Instead of regarding it as a nonentity, accord to it its legitimate rank;—let it be acknowledged to *be* an afferent vessel as well as the other two: and then it will be seen—Firstly, that *it* receives by the mesenteric veins the fluidified or digested solids and the fluids; in other words, the food and drink from the alimentary tube, and which are absorbed by the gastro-intestinal capillaries; and that it is an error, and a very absurd one too, to suppose that an out-of-the-way vessel like the left subclavian vein, receives through such a long and narrow tube as the thoracic duct "the fresh nutritive materials derived from the digestive process." Secondly, that the hepatic afferent vessel propels the blood through the hepatic capillaries or liver, and not, as is generally believed, the systemic afferent vessel; and thirdly, that the reason it does not consist of a heart and artery, but of a spleen and vein is, because a different kind of motion of the blood is required through the hepatic capillaries to that through either the pulmonic or systemic capillaries; that is, an intermittent and slow motion, and not a constant and rapid one. If a constant and rapid, instead of an intermittent and slow, motion of the blood through the liver had been required, then the hepatic afferent vessel, like the pulmonic and systemic, would have consisted of an auricle, a ventricle, and an artery, and the mesenteric veins would have terminated in the auricle. On the other hand, if an intermittent and slow, instead of a constant and rapid, motion of the blood through the lungs had been necessary, the right auricle and ventricle would have been a spleen, and the pulmonary artery and its ramifications a vein, like the splenic and portal, in the middle of which the superior, inferior, and hepatic cavæ would have terminated: and again, if an intermittent and slow, instead of a constant and rapid motion of the blood through the general system had been necessary, the left auricle and ventricle would have been a spleen, and the aorta and its ramifications a vein, like the splenic and portal, in the middle of which the pulmonary veins would have terminated. For the three afferent vessels we should then have had one heart and artery, and two spleens and veins, and not as now one spleen and vein, and two hearts and arteries. The hepatic afferent vessel, by *slow* distension and contraction, produces an intermittent and slow motion of blood; the pulmonic and systemic afferent vessels, by *rapid* distension and contraction, produce a constant and rapid motion of blood. As I have said elsewhere, heart and spleen, and artery and vein, are anatomical antitheses, and produce opposite physiological effects:—

Heart + artery = constant and rapid motion of blood.

Spleen + vein = intermittent and slow motion of blood.

J. J.

Sept. 16, 1848.

P.S. The spleen, which never ought to be regarded as a distinct or isolated organ, but as the commencement or roots of the hepatic afferent vessel, consists essentially, and almost wholly, of the branches of the splenic artery, and of the roots of the splenic and portal vein, and of the intermediate capillaries. The capillaries are for the purpose of furnishing points of origin for the venous roots, which could not originate from nothing, or from anything else than capillaries, and the artery is for the purpose of supplying material for the formation of the capillaries. Its tortuosity is evidently to minimise the quantity of blood that passes through it, for it is not the blood that is wanted, but only the blood-vessel. The elastic capsule of the spleen, and its prolongations through the interior of the organ, and the splenic nerves and lymphatics, are of secondary importance, and in this place require no comment.

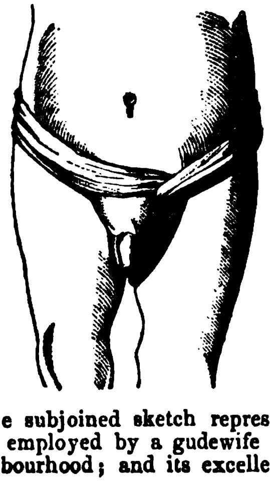
DESCRIPTION OF A

TRUSS TO BE WORN IN CASES OF CONGENITAL HERNIA.

By William Coates, M.R.C.S.

"If circumstances will admit of a truss being applied and worn, in cases of congenital hernia in young subjects, there will be considerable chance of a radical cure being effected."—*Saml. Cooper.*

From this passage we may infer that some difficulty is to be encountered in the adjustment of a truss in young subjects; and there are few surgeons, I believe, who have not been hampered in the management of hernia, occurring in very young infants, either from the want of tact in nurses—the impatience of restraints—the necessity of removing the truss during washing and dressing, when the infant usually cries—the falling which frequently occurs—or from the expense of a constant supply of new trusses, occasioned by the rotting and destroying influence of urine, notwithstanding the coating of india-rubber, japan, or any other varnish.



The subjoined sketch represents a truss employed by a gudewife in my neighbourhood; and its excellence is such that it is a duty to make it generally known.' Horace tells us not to despise the teaching of the unlearned, for—

> "Interdum vulgus rectum videt."—*Epist.*

I have given this truss extensive trials: the result has uniformly been the radical cure of the disease. It consists, simply, of a skein of lamb's wool: for infants,—*Berlin wool* is preferable: this encircles the pelvis, one end is passed through the other at a point corresponding with the inguinal ring; the free end is carried between the thighs, and is fastened behind to that portion which forms the cincture.

This simple and cheap contrivance can be worn during the morning and evening ablutions, and then changed for a dry one; no attention is required on the part of the nurse, except at the moment of changing. With ordinary care in drying the skin, and the occasional application of magnesia or other nursery powders, I have never found the skin galled.

In cases of emergency this truss may be made available for adults; or rather, the modification of two silk handkerchiefs tied in a ring, which, as a *pis-aller*, is no more to be despised than is a garter and stick as a temporary tourniquet.

Wrington, Sept. 4, 1848.

SATISFACTORY INFORMATION FOR ENGLISH MEDICAL AUTHORS.

Our Canadian contemporary, the British American Journal, in its number for September, gives a short notice of the works of Drs. G. O. Rees, Griffith, and Mr. Markwick, on the Blood and Urine, and it sums up with the following very satisfactory announcement:—"Like most American reprints, it contains numerous typographical errors; but we must overlook this, when we recollect that we have *three treatises neatly bound together, and well printed on good paper, for less than the English copy of any one of them would cost.*"

It is with regret that we do not see this dishonest system of stealing and selling other persons' goods strongly denounced by our contemporary. However the eighth commandment may be despised at Philadelphia—Canada is a British possession, and we desire to know why the stolen labours of English authors are allowed to be sold across the border so that three volumes are to be had for the price of one in England. Is this fair dealing?

MEDICAL GAZETTE.

FRIDAY, SEPTEMBER 29, 1848.

Before another number of our journal appears, the medical session for 1848-9 will have commenced. The Metropolitan and Provincial schools have undergone but few changes during the summer vacation: we still recognise among the professors and lecturers, the names of gentlemen already well known to the profession, and the same routine of study is marked out for the young aspirants to professional honours. The principal change, so far as the metropolis is concerned, is the accession of Mr. Arnott to the office of Surgeon and Professor of Surgery in the Medical School of University College. Some of our contemporaries have been busy in predicting the downfal of this College; and have described the new appointments as the result of jobbery and intrigue. Of the existence of these influences we know nothing; but it appears to us that that species of jobbery which succeeds in filling the Chairs of Anatomy, Surgery, Midwifery, Chemistry, and Materia Medica, with such men as now hold these appointments in the school of University College, cannot be reasonably objected to. We do not believe that the *concours*, with its noisy but unsound professions of fair play, would have succeeded in procuring a more talented or a more highly-respected body of professors than those who are now attached to this College. The grievance, if any, must therefore be regarded as one of a sentimental kind. Appointments privately made by irresponsible councils, *may*, it is true, lead to the creation of a bad class of teachers; but we are by no means convinced that any other mode of election yet devised is free from the same objection. In the meantime, the Council of University College have not only put a stop to the dissensions which existed in the school at the close of the last session, but have succeeded in recruiting their medical staff in a most efficient and satisfactory manner.

Among the other changes, we ought to notice that Dr. West, whose lectures, as recently published in this journal, have deservedly acquired for him a high reputation, has joined the Medical School of St. Bartholomew's Hospital as Professor of Midwifery.[*]

It is not our practice to give advice respecting the choice of schools. There are, probably, few students who have not already, under the guidance of parents or medical friends, made a selection before they reach the metropolis. To those who may not have had the good fortune to be thus assisted by the mature experience of others, we would only say,—Look to the means for imparting a sound knowledge of *practical medicine* and *surgery*: look to the *hospital* attached to the school—the opportunities afforded for *clinical study*, and the facilities thrown out by the aid of a museum and good medical library for the acquisition of professional knowledge. Again, we would say—Do *not* look to those "Establishments," whether in town or country, the principal attractions of which consist in unusually low fees and in a preponderance of prizes in the shape of books, medals, &c.[*]

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[*] We think the time has arrived when the term *professor* should be substituted for that of *lecturer* in the appointments held in our medical schools. Whoever is qualified to teach in a school attached to a metropolitan or provincial hospital must, *virtute officii*, be a professor. The term lecturer, in reference to medical tuition, is not used in the language of any other country; and the public are misled by supposing it to be an office inferior to that of a professor. As it strictly implies the *reader* of a discourse, it is more applicable to members of the clerical than of the medical profession. We need hardly say that there is no assignable difference in qualification or professional standing between lecturers and professors in our medical schools; and there appears to be some absurdity in retaining the use of a term which is apt to mislead the public, when there is another more intelligible at hand. The only drawback to the general adoption of the title that we know of is, that the shilling dispensers of chemistry and natural philosophy at Polytechnic and Mechanics' Institutions commonly style themelves professors.

In medicine, as in other professions, the parade of unprecedentedly low fees may turn out to be a hollow deceit. Men know what it is to buy too cheaply: they soon find out their mistake, and they thus often acquire useful experience at a small cost. In medical education, however, the evil of an unfortunate selection may be discovered only when too late, and an unwise economy in the beginning may thus prove ruinous in the end. At the close of a session, letters have been addressed to us by students, complaining that promises had not been performed; that lectures had been delivered with irregularity; the means of illustration were wanting, and there were no subjects to be had for dissection. These gentlemen had entirely forgotten that they had received a full equivalent for their contributions; and that it was most unreasonable on their parts to expect, that for *half* the sum, they should receive *all* the benefits which their student-friends had derived at other medical schools. We by no means object to competition in medical education, but it must be a wholesome competition. No single branch of medicine can be efficiently taught without certain expenses being incurred; and it would be easy to prove that the fees in some instances could not have been adequate to cover these necessary expenses,—to furnish the prizes (awarded as a matter of course), and to leave a balance in the hands of the professor! The name of one of these teachers has been forwarded to us, with the representation that the students, in entering to his courses, are well aware that they are paying the fee for the *certificate* to enable them to go up to the Hall or College, and that they are perfectly willing to forego the dubious benefit of his lectures. For these reasons we say: let students beware of these tempting inducements. The fact that schools and private teachers are "recognised," is at present no criterion of the efficiency of the former, or of the competency of the latter.

The agitation on the subject of medical reform has created some uncertainty among those who are about to enter the profession, as to the course which they should adopt. The yearly threatening of Medical Education and Practice of Physic Acts, has unsettled the minds of all connected with the profession. They who are desirous of joining it have, however, only one plain rule to follow—namely, to obey the laws as they are. The rules of the Apothecaries' Society and of the College of Surgeons, regarding the course of study, must be strictly observed. There must be no omission, on the hypothetical ground that a medical millennium is at hand, or that the medical profession in these islands is about to undergo a complete regeneration on the "liberty, equality, and fraternity" principle. Whatever measure may be passed, the rights of students under old regulations will be respected; while those who fall under the new regulations must be prepared for a larger demand being made on them as to the period of study, the subjects to be studied, and the mode of examination. The improvement of the profession will assuredly consist not in making rules more lax, but in making them more stringent.

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[*] It is very much to be regretted, that in the London Hospital Schools, with very few exceptions, the *dresserships*,—those important offices which lead to the acquisition of a greater amount of practical instruction in a few weeks than can otherwise be gained in one or more years, are still made a matter of bargain and sale, and are only to be procured by the payment of heavy fees. This system should be entirely abolished, as it allows an incompetent man, well provided with money, to occupy a most responsible office, while the poor, but industrious, and perhaps competent student, is excluded, merely because he has not the means of paying the fee. To the honour of the governors of a few institutions in the metropolis, this system has been abolished, and the sole qualifications for the office, are the industry and ability displayed by the student, and certified by the professors. These are the real prizes to which a student should look; he will find one of these appointments far more valuable to him hereafter, than any number of gold or silver medals earned by the closest application to one or two special branches of medical science. We are aware that the sale of dresserships is sometimes justified by the plea that the institution is in want of funds; but the real question is,—should money be raised by a system which cannot ensure that attention and skill which the patients in public hospitals have a right to receive, and which makes a long purse the only test of competency in the medical attendant.

One word of advice in conclusion. A student must not expect too much from his teachers. Knowledge cannot be poured into the mind as water is into a vessel. Hard work, close study, with industry and perseverance, are essentially required. With these a man may achieve any object: without them he will achieve nothing.

OUR readers will, we are sure, be pleased to hear that in addition to the valuable series of lectures which have recently appeared in this journal, we have made arrangements to publish a Course of Lectures on *Preternatural* and *Complex Labours*, and *on certain Diseases* of the *Parturient State*, by DR. E. W. MURPHY, Professor of Midwifery, &c., in University College. The introductory lecture to the Course, will be inserted in the following number, and the remaining lectures will appear on alternate weeks, until the course is completed. These lectures will include the practical consideration of the following subjects: — *Preternatural Labours*, *Hæmorrhages*, *Convulsions*, *Ruptures of the Uterus*, *Twins*, *Lactation*, *Convalescence*, *Inflammations*, *Puerperal Fever*, and *Puerperal Mania*. We have no doubt they will be fully valued by all who are engaged in the practice of midwifery.

WE invite the attention of our readers to the prospectus of the Cavendish Society,* which is now fully organised, and has already commenced its labours under the most favourable auspices. We need only state here, that the object of this Society is to print, publish, and circulate valuable original works on Chemistry. To accomplish this, a small annual subscription is raised, and in return, each member will receive one or more volumes, according to the number of subscribers. There are already *six hundred* members, and the works to be distributed for the present year, of which we have one now before us, may be considered as a very fair return for the amount of the subscription. Our readers will judge from the list of works proposed to be published, how far the objects of the Society are worthy of their patronage. We shall only observe, that if the plan be carried out as it has been commenced, it will deserve the support of all men who are interested in the progress and diffusion of science. Numerous valuable memoirs on Chemical science by foreign writers, may, by the general support of this Society, fall into the hands of students and practitioners, when their costliness, or the fact of their being published in French or German, might otherwise have excluded them from general circulation. Literary Associations of this kind, when well conducted, are productive of much good. The names of those gentlemen, who constitute the Vice-Presidents and Council, are, we think, a sufficient guarantee that the expectations of the members of this new Society will not be disappointed.

NOTWITHSTANDING the rumours which are continually reaching us of the progress of the Asiatic Cholera, it is satisfactory to perceive that the state of health of the metropolis, at a period of the year which is usually regarded as most unhealthy, is on the whole favourable. At any rate, there is nothing to indicate alarm, or to show that bowel-complaints or other disorders, supposed to be indicative of the advent of cholera, are on the increase. Taking the Registrar-General's return of the last week, (September 16), they are actually on the *decrease*. Thus there were only *six* deaths from *Cholera* (English) to a weekly summer average of seven; and as to *Diarrhœa*, which is looked upon as the special forerunner of Asiatic cholera, the deaths were only *forty-two* to a quinquennial weekly summer average of *sixty-six*. Among the fatal cholera cases, one half, and among the fatal diarrhœa cases, two-thirds occurred among infants. There was not one fatal case of influenza. These results must be very discouraging to those alarmists, who, some months since, held out to the public the very unsatisfactory announcement, that "unmistakeable" cases of Asiatic cholera had already occurred in the metropolis! It is now, we think, abundantly proved that these cases were really mistaken in their nature, and that there was no ground for the absurd rumour of the appearance of cholera among us. Our readers will hardly believe that the French journals, on the strength of this unfounded rumour, have recently circulated a report that the inhabitants of London had been actually decimated by the Oriental scourge, and that the ravages of the disease at the time of writing were too frightful to contemplate! A French correspondent in London has, however, undeceived the Parisian public, and has thus relieved them of a large amount of unnecessary sympathy.

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* Page 558.

Although the picture is so far favourable in this point of view, and the total weekly mortality was last week much below the average, it cannot be denied that the table of mortality is in another respect very unfavourable. We had occasion to state, in our short summary of the preceding week, that there had been a great increase in the deaths from scarlet fever. The deaths from this disease were 145; no less than *quadruple of the weekly average*, at the present season. The infantile population suffered to the extent of 141 deaths out of this number. What are the causes which have suddenly rendered this formidable disease so prevalent and so fatal? and what are the best means of subduing its ravages? Such questions are of far greater importance at the present time than the concoction of imaginary specifics for Asiatic cholera. It offers a fit subject for the investigation of a Board of Health, constituted not of ministerial nominees, but of well-informed *medical* men. Such a Board is yet, however, a desideratum in this country.*

While discussing the Registrar's return, we must observe that the frequent changes made in the classification and specification of diseases are most objectionable. We find now in the list a new "zymotic," under the name of *Noma* or *Canker*. Whose invention is this? We are at a loss to conceive the necessity for its introduction into this already numerous class of diseases. It appears from the table that the weekly average deaths from noma amount to only *three-tenths* of a person weekly! Hence there does not appear to have been any great public necessity for its addition to the list. The effect of such a system is, that we are constantly incurring the risk of confounding mere symptoms with the diseases themselves.

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* The return for the present week, Sept. 23d, shows a slight increase in the total deaths, but those from diarrhœa and cholera are about the same as in the preceding week. The deaths from scarlet fever were, however, no less than 161, of which 154 were among infants.

In another part of the journal[*] will be found a Government order respecting the conditional imposition of quarantine on vessels arriving in English ports with cases of cholera on board. This indicates a wise precaution, and, at the same time, something more than a suspicion of the accuracy of the conclusion at which the Sanitary Commissioners and Lord Lansdowne have recently arrived—namely, that the cholera was *not communicable* from one person to another *in any manner whatsoever!* We are quite at a loss to comprehend this inconsistency. If, as it is alleged, cholera is *not* to be kept out by quarantine regulations,—not because they are easily open to evasion, but that the disease always traverses oceans and continents in spite of them,—why have we all these petty restrictions on commercial enterprise? Why are the clothing and bedding of cholera patients to be "thoroughly immersed in water, under the direction of an Officer of Customs?" or why are vessels with cholera actually on board to be detained until orders from the Lords of the Council have been received? There is only one answer to these questions, which the Lords themselves furnish in another part of the order: it is, that they are desirous of preventing the *introduction of cholera into this country*—an admission which proves that they do not believe in the conclusion at which the Government Commissioners have arrived, *i. e.* that cholera cannot be transmitted from one individual to another. Under these circumstances, how is it to be expected that sanitary reports will create a feeling of security in the public mind, when the acts of the Government indicate a positive distrust of them, and a disbelief in the official declarations of their own selected Commissioners?

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[*] Page 556.

Reviews.

A Course of Lectures on Dental Physiology and Surgery, delivered at the Middlesex Hospital School of Medicine. By John Tomes, Surgeon-Dentist to the Middlesex Hospital. 8vo. pp. 397. London: Parker. 1848.

The recent publication of Mr. Tomes's lectures in the Medical Gazette has to a certain extent rendered the profession acquainted with his researches in dental physiology and surgery. In the volume before us he has collected them from the scattered numbers in which they appeared, and, by revision and numerous additions, has placed them in a very acceptable form before the profession. In treating the subject, Mr. Tomes has retained the oral style, but not in a degree to damage the effect of his observations: on the contrary, each lecture may be considered as the chapter of a treatise.

The reader will find that this is not a work written on the principle of many dental treatises, *i. e.* of merely attracting patients. It is addressed to the profession, and more especially to those members of it who intend to take up the practice of dental surgery. A considerable space is judiciously devoted to Dental Physiology: no less than six out of sixteen lectures are given to this important subject; and the author has shewn, by the mode in which he has treated it, that he is not a mere compiler of the labours of others. In reference to the *structure of the enamel*, Mr. Tomes observes—

> "*Structure of the enamel.*—The enamel, the hardest of the dental structures, is composed of dense semi-transparent fibres, placed side by side, and closely united. Their form is an approximation to a six-sided prism, and their size tolerably uniform, being from the $\frac{8}{10000}$th to the $\frac{8}{10000}$th of an inch in diameter.
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> "The direction taken by the enamel fibre is, for the most part, vertical to the surface of the dentine upon which it rests; those therefore, which proceed from the flat surface of the crown, will rise vertically, while those from the lateral surface of the tooth will be horizontal. Where the coronal surface of the dentine is concave, the enamel fibres of the opposite sides of the concavity form with each other angles, and meet at their external ends, or are bent out of their

course. This juncture is frequently imperfect, and leaves a fissure, under which the dentine, being less protected from external influence than on the other parts of the crown of the tooth, is more frequently attacked by disease. The fissures on the crown of the molars are often subject to this defect of development. The ends of the enamel fibres are received into the shallow hexagonal depressions of the coronal surface of the dentine, from whence, in their course, they describe frequent curves. Neither are the curves in one plane only; on the contrary, where the enamel is thick, the fibres are bent about in each direction. Near the neck of the tooth, where the enamel is thin, a single fibre may be traced through its whole course. There it makes but one or two curves, and these mostly in one plane.

"The direction taken by neighbouring fibres is not, however, at all times perfectly parallel; indeed, they often diverge, or cross each other at considerable angles. Presuming that the fibres that start from the surface of the dentine continue their course to the surface, large spaces would necessarily be left by their divergence. No such space, however, exists. Fibres of shorter length exist and occupy these positions. The curves, also, seem less regular than those formed by the dental tubes. Near the dentinal surface of the enamel, small linear interspaces not unfrequently exist between the fibres. With these the terminal branches of the dentinal tubuli often communicate.

"In the same situation we commonly find elongated cavities, of irregular outline, larger than the enamel fibres themselves, and lying at angles with them. Such cells are common in old worn teeth. Hence their presence cannot be detrimental.

"The enamel fibre is not in all cases solid, but has running through the whole, or part of its length, an extremely minute cavity. This is best seen in newly-developed enamel, but a trace of the canal may sometimes be seen in that of adult teeth. Interposed between the fibres of the tissue under consideration, are the remains of the membrane in which the development has taken place, and which, when hardened by the reception of earthy matter, serves to connect the fibres. This tissue, however, is not traceable except in imperfectly-developed enamel, unless by the aid of acids.

"The individual fibres of the enamel appear to be developed in sheaths of membrane, and united to each other by the adhesion of the sheaths and subsequent calcification of the membrane, in common with the enamel fibre itself. When the development is perfect, the lateral union between the fibres is marked by fine delicate lines; but, when imperfect, the lines are large and coarse, and the enamel has an opaque, opaline appearance, or else is discoloured. The imperfect union occurs in patches, sometimes small, sometimes large—in one case, following the course of a bundle of fibres, from the dentine to the surface of the tooth; in another, stopping short of the surface." (p. 52-4.)

It is not, perhaps, sufficiently considered how much the perfection of voice depends on the regularity of the teeth and the form of the mouth; and where, in singers for instance, there is imperfect articulation, this is often wrongly attributed to a want of education; whereas it may depend on physical causes, and arise from irremediable defect. Phrenologists pretend, by an examination of the youthful cranium, to guide parents to the proper selection of a profession for their children; but well-informed dentists may with much greater reason be consulted as to how far, from the state of the mouth, a person may be qualified for any office requiring public speaking, or for the profession of a singer.

"*The teeth are important as organs of articulation*; so much so, that, when lost, we can scarcely make ourselves intelligible.

"Wherever you have a fine, clear, sonorous voice, you will find well-formed and well-arranged teeth;—each tooth will occupy its proper place. But, what is perhaps still more important, the hard palate will be well formed; that is, it will present a section of a large arch, perfectly free from contraction, either from side to side, or from before backwards. There will not be a deep vaulted form, neither will there be a sudden elevation immediately behind the front teeth, so common in those who speak with indistinctness—on the contrary, the palate will rise gradually.

"The mouth, and its dental appendages, are not of the first importance in relation to the voice, yet they are highly important as auxiliaries, and, as such, their condition should not be lost sight of. The vocal organ may be good, even first-rate, but the mouth and teeth must be well formed, or the voice will be injured in its passage through the mouth. Those who are by nature endowed with the first qualities of voice, and have passed through an efficient course of vocal cultivation, sing with a fine, pure, clear, full tone, and articulate in their song with distinctness. They pass from one note to another rapidly, with full and even tone, and articulate words as distinctly as in ordinary speaking, and yet, in doing this, lose nothing in quality of tone. On the contrary, those who by nature are less favoured (whatever may be their degree of cultivation) have supplementary sounds in or between their

tones. The tones do not flow freely. A slight hissing, or a cavernous or a nasal sound, may be distinguished either in the tones themselves, or as the singer passes from one tone to another. Great effort is made, and yet but little effect produced. The hearer feels as though there was some impediment to the free delivery of the voice. When the words are distinctly articulated, the voice loses its tone. This induces the vocalist, who feels that both good tone and the clear ennunciation of words cannot be gained, to sacrifice the words to the tone, so that the bystander hears the air only—the words are lost.

"It has been usual to impute these defects altogether to want of cultivation, or to inferiority of voice, the one or the other, as the defects are more or less apparent. I think, however, it may be shewn that they are frequently the necessary consequence of the form of the mouth and palate. And further, that, by inspecting the mouth, the degree of excellence to which the singer can arrive may be foretold. In other words, that a good orifice of exit is necessary as an adjunct to a good vocal organ, before excellence in the vocal art can be attained. These observations have been made when inspecting the mouths of professional and other vocalists. At present I offer them without going into details, but, after further confirmation, I hope to place them on a more extended scale, and in a more useful form. It is to be lamented that so much time and labour are spent, in early life, when time is most valuable, in learning singing; and yet so little progress made, that the pupil is, after all the expenditure, unable to sing moderately well. Surely it is desirable that the time should be otherwise employed, if the failure could be foretold by the formation of the mouth. And, on the contrary, that even more should be spent, when the capability for success is indicated." (pp. 122-24).

The details into which Mr. Tomes enters in speaking of the treatment of diseases of the teeth, indicate a good practical acquaintance with the subject. Physiology and pathology are here judiciously brought to bear on practice. The uncertainty of remedial applications in relieving *toothache*, is occasionally to be traced to the dependence of the dental disease on disorder of the digestive organs. Hence, when carious teeth become painful in connection with dyspepsia, the stomach should be restored to health, or local applications will be without effect. The author fully examines the various remedies which have been employed for alleviating the severe pain arising from the inflammation of the dental pulp. Some of these act mechanically, *i. e.* by plugging up the aperture in the tooth, and thus prevent the contact of irritating substances from the mouth, or the access of air to the cavity. A solution of mastic in alcohol, or of gum copal in ether, or a plug of cotton, are very commonly employed; but Mr. Tomes thinks that a solution of gutta percha in chloroform is preferable, as it is less liable to become offensive than mastic or copal. Chloroform alone has been lately used with some success for the purpose of alleviating the severity of the pain. It appears to act as a powerful sedative. In addition to the mechanical remedies described above, we would suggest the use of a plug of cotton soaked in *collodion*, or the ethereal solution of fulminating cotton, the preparation of which is elsewhere described.* It should be stated that for these mechanical remedies to be effectual, the cavity of the tooth should be thoroughly dried by cotton immediately before their introduction. If any moisture remain, the adhesion will not be perfect. If sedatives fail to give relief, escharotics are sometimes employed for the purpose of destroying the dental pulp. Our author is inclined to think well of the chloride of zinc as an escharotic application; it certainly has the advantage of being attended with no possible injury, even should it fail to give relief. It is, therefore, preferable to the favourite American escharotic, arsenic, which we agree with the author in thinking should never be employed in dentistry. While there is no certainty in its action on the dental pulp, there is the very great risk that a portion may find its way into the stomach, and produce serious symptoms.

Some years ago the excision of the crown of the tooth was proposed, in preference to extraction, and for a certain time, like all novelties, this operation acquired a fashionable repute. We believe that the inventor of this new method actually received a prize from the Society of Arts for the ingenuity displayed in the construction of his instruments. On this unscientific method of dealing with teeth, Mr. Tomes justly observes—

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* See our last number, page 516.

"The excision of the crown is attended with almost as much pain as the extraction of the tooth would entail, and the fangs left are very liable to become the seat of the disease, which ultimately obliges their removal, and thus necessitates a second operation when one would have done. For these reasons I cannot advocate the intentional adoption of Mr. Wardroper's practice. Should, however, the crown of a carious tooth be accidentally broken off where extraction was intended, and the pain then ceases, the roots may be allowed to remain till their removal is more imperiously called for." (p. 273).

Experience has long since confirmed the opinion expressed by Mr. Tomes on the demerits of this operation.

The importance of attending to the colour of the gums, as a means of diagnosis, in chronic poisoning by lead, has received a good deal of notice from medical writers since the symptom was first pointed out by Dr. Burton, in 1840. It will, however, be well to consider the results of the observations of a dental surgeon on this subject.

"It has been observed that the presence of teeth is necessary to the (blue) colouring of the gum. This is not all, however: the necks of the teeth must be encrusted with tartar, otherwise the edge of the gums will not receive the blue tinge: in fact, the teeth are necessary only as affording lodgment for the tartar. I conceive, that, if tartar were held in constant contact with the edge of the gums by any other means than its lodgment on teeth, the gums would be equally tinged. I have frequently seen the gums about teeth encrusted with tartar very blue, and in the same mouth, the gums about teeth free from tartar, perfectly natural in colour.

"The colouring of the gum may be the sole indication of lead in the system. I not unfrequently find among my patients those whose gums are blue, but who declare that they have never suffered from colic or any other effect of lead; and, indeed, a few of these say they have not, to the best of their knowledge, been exposed to lead. A short time since, a gentleman applied to me to remove a troublesome tooth. I found the necks of the teeth encrusted with tartar, and the edges of the gums intensely blue. He stated, on inquiry, that he had just returned from China, and that during the voyage he had been salivated for syphilis, but that he had not, so far as he knew, been exposed to the action of lead, either by inhalation or any other mode.

"The continuance of tartar on the teeth is necessary to the continuance of blue gum. If the whole of the tartar be removed from the neck of the tooth, the blue tinge on the gum will gradually fade, while its intensity will be preserved about the teeth on which the tartar is allowed to remain. I cannot tell you how long it will be before the colour will be wholly gone, when the tooth is allowed to remain, because the tartar may re-accumulate, and thus defeat an experiment instituted to ascertain that point. When the tooth is removed, however, the blue stain disappears in two or three weeks, as the following case would indicate:—I was called to remove an aching tooth for a lady who had taken two or three doses of acetate of lead for the suppression of uterine hæmorrhage. The gums exhibited the characteristic blue line. Nine days after the extraction of the tooth, the gums had come together, and the union was marked by a transverse blue line. At the expiration of three weeks, the blue line had wholly disappeared. In another well-marked case of blue gum the patient had nothing to do with lead in any way, and had not been in the neighbourhood of recently-applied paint; but he was employed silvering mirrors, in which mercury and tin are the metals used. These are not solitary instances in which I have found strongly-marked blue gum, and yet no other indication of the presence of lead in the system, or of the exposure of the patient to the action of lead. Hence I am forced to suspect that other metals may produce a similar discolouration of the gum. Should future investigation prove this suspicion to be well-founded, the diagnostic value of this state of gum in relation to lead will be diminished. In endeavouring to trace by what process the gums are stained blue, it must be borne in mind that the tartar itself is often similarly discoloured, especially where it is in contact with the gum. The colouring material is probably sulphuret of lead, or a similar salt of some other metal. Tartar, being very porous, admits into its substance fluids charged with animal matter, which may there be decomposed, and furnish sulphuretted hydrogen, as a product of decomposition. Supposing a salt of lead to be present in the tissues of an adjoining part, a sulphuret of lead would be formed, which would give the colour in question to the tissue in which the formation took place. This action would be continuous so long as the metal remained in the system, and the tartar remained to afford a site for decomposition, and to hold the products against the gum. The saliva itself contains sulphocyanic acid, and from this source sulphur might also be furnished. Traces of lead may be found in the tartar of those affected by that metal." (pp. 308-10).

Some of the author's difficulties are

removed by the fact, that the preparations of mercury have been found to produce occasionally a precisely similar discolouration: hence the "blue gum" cannot be regarded as essentially characteristic of the presence of lead in the system, or of the individual having been exposed to the emanations of that metal. All metals susceptible of absorption, and of forming black sulphurets, might give rise to a similar appearance of the gums; but it so happens, that lead and mercury are the only two answering this description, which are much used in manufactures. Bismuth is but little employed, or probably the blue gum would be found to result equally from the absorption and deposit of this metal. The connection of blue gum with the presence of tartar on the teeth, is worthy of notice. The formation of sulphuret might be ascribed to the action of the sulphur contained in the animal matter of tartar and of the gum. A salt of lead placed in contact with horn or any albuminous matter, slowly discolours it, turning it brown, and even black, by the mere effect of the sulphur which it contains. The action of the sulphocyanic acid in the saliva, therefore, is not required to explain this chemical effect.*

The daily journals teem with advertisements of all sorts of dentifrices, described in the most glowing language; and some of these tooth-powders are especially described as being "recommended by the Faculty" (who this is, we have never been able to discover) on account of the valuable property which they possess of "dissolving the tartar." There is one short answer to this recommendation, namely, that any tooth-powder which will dissolve the *tartar* will also dissolve the *teeth*.

In reference to *plugging teeth*, Mr. Tomes observes—

"In making the plug, our aim must be, first, to so perfectly fill the cavity that all moisture shall be excluded; and, secondly, to so form it that it shall be sufficiently hard to resist, equally with the tooth, the wear of mastication. Unless these two conditions are fulfilled, our work will be imperfect, and ultimately fail.

"Gold or tin foil are the best materials for making plugs. Whichever of these be chosen, the method of use is the same.

"There are four methods of introducing foil for making a plug. In one the metal is folded into narrow strips, proportioned in width and thickness to the size of the cavity. One end of the strip is, by means of a conveniently-shaped stopping instrument, pressed to the bottom of the cavity. The strip is then bent, and a fold passed to the bottom of the hole, leaving the first fold projecting above the surface. Fold after fold is introduced, till the cavity is tolerably full. A wedge-shaped instrument is then introduced, and the gold pressed towards the walls of the cavity; more gold is, by a similar process, pressed into the cavity so obtained. This process is repeated till the wedge cannot be forced into the plug. A flattened instrument is then used to compress the gold in the cavity. When we can make no further effect on the surface of the plug by compression, the surface is filed smooth and burnished. By a careful adherence to this plan, we make a plug composed of layers of metal, arranged parallel to the walls of the cavity, and therefore not liable to fall to pieces or come out. But, on the other hand, had we made the folds at a right angle to the walls, and parallel to the bottom of the cavity, layer after layer would have peeled off, till little or none of the plug remained, and the decay would have proceeded to the destruction of the tooth." (p. 317).

It is the custom with many dentists to condemn the amalgam-plug; but while it is undoubtedly inferior as a method of stopping to the use of gold or tin, there are some cases in which these metals, owing to the carious state of the tooth, cannot be employed, and we either extract the tooth or resort to the amalgam-plug.

"Where the cavity of a tooth is so large that the walls are too thin to bear the pressure necessary to the insertion of a gold or tin-foil plug, the amalgam of silver or of palladium may be advantageously used. Having prepared the cavity as for the use of foil, a little mercury is triturated in a glass mortar with a small quantity of precipitated silver or palladium, till they unite and form a paste, which is well squeezed in a piece of wash leather, to force out as much as possible of the mercury. The paste is then again rubbed in the mortar, or in the palm of the hand, and then introduced into the cavity. The cavity, however, must be first well dried with lint, and care must be taken to get the amalgam in close contact with the whole circumference of the cavity. The plug so formed hardens in a few hours, after which the surface should be well burnished." (p. 318).

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* Sulphuret of lead, as a result of the reaction of an alkaline sulphocyanide on a salt of lead, is not readily formed until the mixture has been heated to 212°.

The author recommends the amalgam of palladium in preference to that of silver, as it does not so readily produce a discolouration of the teeth.

The other operations on the teeth call for no particular notice. Mr. Tomes is no advocate for the use of chloroform or ether; and he justly enough remarks that the remedy is strangely out of proportion to the evil to be avoided. When his work was written he was evidently not aware of the fatal case of Mr. Badger, or his condemnation of anæsthetics for the trivial purpose of allaying temporary pain, would probably have been expressed in still stronger language than he has used. We shall here extract some interesting cases indicative of the injurious action of chloroform vapour, which have occurred within the experience of the author, as they throw a new light upon the after-effects produced by this singular agent.

"I have become acquainted with two cases in which the imagination was strangely affected for several weeks after the inhalation of chloroform. A lady between the age of thirty and forty suffered pain from several unsound teeth. Accompanied by a lady who had recently lost a little girl, and by her husband, she applied to a dentist. Chloroform was administered, and the tooth removed. She felt great difficulty and anxiety when inhaling, and wished to discontinue, but the dentist reassured her, and she went on. Her first sensation, on recovering, was the sound of her own voice, calling bitterly for the little girl who had recently died. This affected her very much, and she fell into a violent hysterical fit. On recovering she was conveyed home, but still bewildered, and at times hysterical. For three weeks she at frequent intervals heard her own voice calling for the little girl, and this was immediately succeeded by a fit of violent hysterical crying. Her friends became very anxious for her safety, both mentally and bodily, for she suffered in health, as well as from these occasional hallucinations. Any attempt to read or to write brought on a violent headache, and in addition to these evils her nights were, comparatively, sleepless. She eventually recovered by the use of tonics, stimulants, and generous living. This is her own account. Her friends state that under the operation she evinced no signs of pain; but that previous to the time she recollects hearing her own voice, she had been calling for the child, had asked its mother to restore it to her, and expressed the most bitter feelings of regret at its loss. The lady has had a tooth out since, but not with the chloroform. She seems very much averse to its use, and says nothing would induce her to take it again.

"In the second case the hallucination took a different form. The patient, a young lady, under thirty, required three teeth to be removed. Her ordinary dentist declined giving her chloroform, on the ground that it was dangerous in all cases, and that it was not necessary or right to give it in tooth-drawing, or any other trivial operation. Hence she sought a stranger who was less punctilious. She was soon rendered insensible, and three teeth were extracted during the time. On recovery she remembered the extraction of the three teeth, and described the operation correctly, and declared it was attended with great suffering; but she believed the pain to be imposed for sins she had committed; that in truth she had been in purgatory, and had suffered there, and had again to go, she said. At first her friends thought she was joking, but after a little time they discovered that, when unoccupied with external objects, the mind constantly fell back upon this idea. In addition to this, she was very nervous and excited, and in the evening asked to have some one to sleep in her room. This proved fortunate, for during the night she was attacked with a fit of collapse. Brandy was freely administered, and a medical man sent for, who with stimulants restored her. For a fortnight after the inhalation she continued very miserable, and subject to the frequent recurrence of these hallucinations. Her condition caused great alarm to her friends, who could not tell how long it might continue, and did not feel justified in leaving her for a moment alone while in that uncertain state of mind. In each of these cases the patients were reported to be of highly nervous temperament, and subject, under great excitement, to hysterical crying.

"Mr. O. Clayton related to me a case in which catalepsy, with a tendency to coma, was induced by the inhalation of ether, and lasted for four days. The pupils were dilated, and the patient was insensible to all that was passing around her, but could be partially roused for a moment by loudly shouting in her ear. She took no food, and drank only when forced to do so. If the arm was raised it retained the position for a while, and then slowly fell back on the bed. There seemed great reason to fear a fatal termination.

"The patient was a servant-maid, and predisposed to slight attacks of hysteria. She required a tooth to be removed, and asked to take ether. She recovered from the more urgent symptoms under the use of stimulants, but did not regain her usual state of health. Neither has she done so at the present time, though many months have elapsed since she inhaled the ether.

"I am indebted for the following interesting case to the kindness of my friend Mr. Chalk, who obtained the details from Mr. Bird, of Haverstock Hill, in whose practice the case occurred. It appears that two ladies repaired to a dentist's, one to have teeth removed when under the influence of chloroform; the other as companion to the patient. In giving the history, Mr. Bird uses the words of his patient and her friend, and his own in relating the treatment and its result. The patient says:—"Wishing to have two teeth extracted, I applied to a highly respectable dentist, for permission, in the first instance, to see one of his patients inhale the chloroform, which he kindly allowed, and afterwards appointed the next day for the time of my own operation. I accordingly went, accompanied by a female friend, and took my seat in the operating chair. The process of inhalation was commenced. I distinctly recollect hearing the gentleman say, 'she is now under its full influence;' and he commenced the extraction, when I gave as loud a scream as I did on any previous occasion of tooth-drawing, although I felt a very pleasant soothing sensation." The inhalation was repeated; and here I must let her friend speak:—"The second tooth, a stump, was then taken out without the least signs of pain: her countenance became ghastly, and my friend was in as complete a state of intoxication as could well be borne—almost pulseless—scarcely breathing; and I made up my mind she would die, and suggested the propriety of calling in medical assistance. The windows were all thrown open, brandy administered, and two bottles of eau-de-Cologne consumed in bathing the face." This state lasted three hours, when she was lifted into her carriage, and taken home, with directions to let her go to bed and remain quiet. This was about 7 in the evening; she lay nearly all night in a restless, half unconscious state, until 5 o'clock the next morning, when, reaction taking place, I was sent for, and found my patient in a high state of delirium—obliged to be held down in bed; leeches, blisters, &c. were employed—the usual mode of treatment was adopted, and in four days she regained her senses. I am sorry to add that I sometimes find a vacancy in her manner, which leads me to forbode insanity sooner or later—a condition which I never observed previous to the inhalation, although I have been acquainted with my patient for ten years." (pp. 350-354).

These cases convey a lesson on the use of anæsthetics, by which the most enthusiastic chloroformists may profit.

With this extract we shall take leave of our author, by complimenting him upon having produced one of the best and most scientific works on Dental Physiology and Surgery which we have perused. It will be found most useful as a guide to the dentist, and as a work of reference to the medical practitioner. The volume is illustrated by no less than one hundred and thirty-five well-executed engravings. One of them (at page 22) showing, on a black ground, the distribution of nerves to the teeth is of great interest in a pathological view, as it furnishes a full explanation of the sympathetic neuralgic pains suffered by those whose teeth are affected with caries. The statistical diagrams, at page 145, showing the relative liability to the loss of teeth at different ages, are deserving of especial commendation for the great ingenuity which they display.

Works of the Cavendish Society: founded 1846. Chemical Reports and Memoirs, edited by THOMAS GRAHAM, Esq., V.P.R.S. &c. London: Printed for the Cavendish Society, by T. R. Harrison, St. Martin's Lane. 1848.

WE are glad to welcome the appearance of the first volume issued by this useful Society. It contains translations of various interesting reports which have appeared in the foreign scientific journals, and which are here arranged and collected in an easily-accessible form. The articles amount to eight, and comprise—1. The Relations of the Volumes of Bodies to their Atomic Weights; 2. On the Connection existing between the Atomic Weights, Crystalline Form, and Density of Bodies; 3. On Endosmosis; 4. On Isomorphism; 5. On the Influence of the Association of Colours in Dyeing; 6. On the Latent Heat of Steam; 7. On the Artificial Formation of Alkaloids; 8. On the Connection existing between the Pseudo-volcanic Phenomena of Iceland.

From this list of the contents, it will be seen that this volume is addressed more particularly to the advanced chemist and the chemical philosopher. The articles appear to have been judiciously selected, and carefully translated. The task of translation has been assigned to Dr. G. E. Day, whose name must be well known to our readers, from his lectures on chemistry and the microscope, in relation to medicine, which have appeared in this journal. The memoir on *Physical Investigations on Dyeing*, by M. Chevreul, and the report on the *Artificial Formation* of *Alkaloids*, by M. E. Kop, will be found well worthy of perusal. The last memoir in the series is of great interest to the student of geology and physical geography. This volume may be considered as a good beginning for the Cavendish Society; and we think its publication cannot fail to add to the list of members.

School Chemistry; or Practical Rudiments of the Science. By R. D. Thomson, M.D. Lecturer on Chemistry in the University of Glasgow, &c. Small 8vo. pp. 232. London: Longmans. 1848.

The title of this little volume is most happily chosen. Many of our readers will doubtless recal the wish of their school-boy days—when chemistry appeared to them little less than magic—for some safe and intelligible handbook, neither too learned nor too superficial, to direct them in the study of this interesting science, and the method of performing experiments. Pinnock's Catechisms, or dry articles on the Useful Knowledge principle, copied from encyclopædias, were then regarded as works of authority. Even the interesting Conversations of Mrs. Marcet scarcely supplied the want. They were of too scientific a cast, and were soon laid aside for other works less sound but of greater pretension. There is in truth no deficiency of Manuals, Guides, and Elements of Chemistry in the present day; but most of them are far beyond the reach of a school-boy. Dr. R. D. Thomson has contrived to adapt his matter to the use of schools, and to make such selections from the science as can be readily comprehended by the young. In a small space, and in concise language, aided by numerous illustrations, he has succeeded in giving such an amount of information as will serve to initiate a beginner in the rudiments of Experimental Chemistry. We must object to his departing from ordinary English nomenclature in a work of this kind, as in the use of the French terms, chlorohydric and cyanohydric for hydrochloric and hydrocyanic acids, and also to the introduction of processes for the detection of poisons in stomachs, &c., since this is a branch of chemistry which is hardly required to form a school education. No youth can peruse this book without deriving from it a large amount of useful information: at the same time it should be studied with a master, or under the eye of one whose experience may prevent the occurrence of those accidents which must inevitably arise when boys are allowed to have free access to chemical compounds and apparatus.

Proceedings of Societies.

MEDICAL SOCIETY OF LONDON.

Monday, September 25, 1848.

Mr. Hancock, President.

This was the first meeting of the session: the library was crowded with fellows and visitors.

The President made some remarks on the age and prosperity of the Society. He then related the following case of

Disease of the appendix cæci cured by operation;

as it appeared to be of value, from its presenting a mode of treatment which might be advantageously pursued in certain stages and forms of mischief resulting from the presence of impacted fæces or foreign substances, either in the cæcum or its appendix, which have hitherto for the most part, if not invariably, proved fatal. He said that abscesses of the abdomen connected with the cæcum or large intestines, and attended with fluctuation, had, from time to time, been opened; but he was not acquainted with any instance in which an operation had been attempted under the circumstances detailed in the following case, and where the result had been so entirely satisfactory. In the cases recorded, the presence of fluctuation has proved the existence of matter; but the following detail will show that we should not always wait for this unequivocal sign. Patients do not always live until the disease has progressed thus far; they frequently sink and die without any further symptoms than those of inflammation of the part; and it is to this class of cases that the treatment here related appears to me most applicable. I was requested, on Saturday, 15th April, 1848, to see a lady, aged thirty, in consultation with Dr. Chowne and Mr. Diamond

She was of delicate constitution, having been a even months' twin. She, about twelve years since, received an injury to the spine whilst playing at cricket with her brothers, which confined her to her bed for about nine months. Eventually the only bad ymptoms remaining were partial paralysis of the lower intestines, so that the bowels were never effectually relieved without the aid of an enema, and severe occasional attacks of pain, for which she took large doses of laudanum. She married about five years after the receipt of the injury, and her pregnancies have always been attended throughout with violent sickness and ill health. In April 1848, she was pregnant with her fifth ild; the sickness had been most violent nd distressing during the whole time, opium, ydrocyanic acid, and the usual remedies failing to give her any relief. On the 3rd, after riding out for an hour, she felt an unusual dragging, and pain in the right side, obliging her to keep her bed, and to take opiates. On the 7th she was suddenly seized with labour, and delivered of a small male child six or seven weeks before the full time, which only lived about twenty hours. The next day, the 8th, whilst turning in bed, she felt a severe pain in the groin, as she described, as of something having snapped asunder, and from that time she continued to suffer greatly in the whole inguinal region; but as the pulse continued about 90, and there was no particular tenderness on pressure, nothing was done but the administration of sedatives. On the 10th, the pain was more acute, and a slight hard swelling could distinctly be traced high up in the inguinal region; bowels had been slightly relieved by the enema. Six leeches were applied over the spot, and subsequently warm fomentations, which were also applied over the labia, the lochia having ceased, and the urine being very scanty. She continued much the same until the 13th (a blister having been applied on the 11th); the cord-like swelling could now be felt more distinctly, and the tenderness extended over the whole abdomen. On the 14th, Dr. Chowne first saw her in consultation. Her tongue was brown; pulse about 90; tenderness and pain the same; bowels not relieved by the usual enema. A dose of six grains of calomel was prescribed for her, to be followed by three grains every two hours, until she had taken twelve grains. At the end of twelve hours the bowels were only slightly acted upon by enema. Fomentations continued, with saline and opiate mixture. I first saw her on the 15th: she was then complaining of intense pain in the right inguinal region; could not bear any pressure on that part; the whole abdomen, which was tympanitic, was tender on pressure, but not sufficiently so to be very urgent. She had observed a swelling in this situation before her pregnancy; but previous to her confinement it had not caused her any uneasiness. From the slight examination which, on account of the soreness of the blister, I was enabled to make, I was disposed to suspect mischief about the cæcum or its appendix, but as the symptoms were not very urgent, it was agreed to continue the opiates, and apply poultices over the part until we met again on the 17th.

April 16.—Not so well; pain more acute; more decided signs of peritonitis.

17th.—Much worse than when we last saw her. Her countenance anxious; nose pinched; pulse intermittent and running; sickness very troublesome; tongue brown in centre; had obtained no sleep, although thirty doses of the solution of bi-meconate of morphia had been given every three hours. Skin cold and clammy; complained of great pain, and fits of shivering, which were most violent, and from their frequency had prevented her sleeping; bowels scarcely relieved by enema.

The blistered surface having healed up, a more decided examination could be made. The cord-like swelling already alluded to was more apparent, but too close to the spine of the ilium to be an inguinal hernia; there was also thickening and hardness extending outwards towards the ilium, where she complained most of pain. As she was evidently sinking, and the previous treatment had been of no avail, I proposed to make an incision from the spine of the ilium to the inner side of the internal abdominal ring over the hardened spot, so that if it were intestine or omentum it could be freed; or if, as we thought more probable, matter had collected in the right iliac fossa, it could be let out, and thus give our patient a chance of recovery. This having been agreed to by Dr. Chowne and Mr. Diamond, who attended the case with me throughout, the patient was put under the influence of chloroform, and an incision about four inches long made inwards from the spine of the ilium above Poupart's ligament, but as close to it as possible. Upon opening into the abdomen, a quantity of excessively offensive turbid serum, with fibrinous flocculi, poured out, mixed with air globules, and also patches of false membrane. She was directed to be turned on her side, that the discharge might freely escape; a poultice to be applied, and to take an opiate.

We again saw her at ten o'clock that evening; her abdomen was then very tympanitic and painful; pulse 120; skin, however, warmer than before the operation; the wound has discharged very freely, the fluid being most offensive.

To take morphia with carbonate of ammonia every four hours, and to have a starch enema, with five drachms of sedative liquor of opium.

18th.—Better; has passed a more quiet night; wound discharges freely a turbid serous fluid; bowels have been relieved by enema. Tongue white; pulse 120; suffers from spasmodic twitchings of body. Abdomen very tender over the whole surface, and slightly swollen.

To continue the sedative draughts, each containing sixty minims of the solution of morphia every three hours, with starch enema, with six drachms of solution of opium at night.

May 1st.—Has gone on favourably up to this date; the opiate enemata have been omitted, but the opiate draughts continued, with occasional small doses of calomel, which have greatly controlled the sickness. She has been allowed as much nourishment as she will take, but her appetite continues bad. She has also had wine, brandy, and bottled stout from time to time, the discharge being large in quantity, thin, watery, and very offensive; the abdomen has become soft and painless on pressure. To-day she is not so well, suffering great pain about the wound, which is inflamed, and the edges sloughy. Ordered warm fomentations to be applied continually over the whole surface of the abdomen.

2d.—Her sleep has been much disturbed by acute pain around the wound; discharge thinner, greenish, and very offensive. Upon carefully examining the wound, a small round ball of fæcal matter, surrounded by calcareous deposit, was discovered, and upon further examination, a second piece excavated on one side, evidently forming a cup for the former piece, and which, from their size, I should imagine had been impacted in and escaped by ulceration from the appendix vermiformis. A large quantity of hard fæculent matter passed per anum, after the enema.

To continue the nourishing diet; and, as profuse perspirations have come on, to take disulphate of quinine, with sulphuric acid, and infusion of roses with opiate at bedtime. She got well from this date; the discharge gradually improving in quality.

In some remarks upon this case, Mr. Hancock referred to the frequency of operations on the abdomen of late, particularly in cases of ovarian disease, many of which had been successful. As far as he knew, the instance related was the only one on record of an operation of the kind, under the circumstances detailed. He should not argue, or draw general conclusions from a solitary case, but he thought that it, at all events, would justify us in having recourse to such a procedure in cases of peritonitis, when all other means had failed, and without which death was inevitable. He contended that the typhoid condition into which patients affected with peritonæal inflammation fell, did not depend upon the violence of the disease, but upon the acrid nature of the effused fluid, the removal of which he thought the only chance of saving the patient.

Dr. **Bennett** made some remarks on the great variety observable in cases similar to that related. The question was, when to interfere, and when to leave off trusting to nature. He related a case, in which a tumor formed in the right inguinal region, but which eventually spread over to the opposite side; matter formed was entirely circumscribed, and if early mechanical means had been resorted to, the man might have been saved. The first symptoms were simply those of obstruction; inflammation came on, followed by suppuration and sloughing, which terminated fatally, in consequence of there being no exit to the matter. The disease had commenced in the head of the colon, and involved the cæcum.

Dr. **Waller** said, there was at present in St. Thomas's Hospital a woman with a large tumor in the abdomen. She had been subject to occasional attacks of peritonitis. There was no fluctuation. No examination could be made per vaginam, as, after delivery, sloughing had come on, and this passage was closed. Eventually a communication took place into the bladder, and fœtid pus in large quantities was voided. She is getting well.

Dr. **Chowne** made some general remarks on the difficulty of diagnosis in cases of tumor in the abdomen, many kinds of which he enumerated. He made some comments on Mr. Hancock's case, which he thought a warrant for interference in future cases of the kind.

Dr. **Golding Bird** said, that the great novel point in Mr. Hancock's case, and his subsequent remarks, was the opinion he had broached, that the danger and fatal results, in cases of peritonitis, depended more on the acrid nature of the effused fluid, than on the severity of the disease itself. From his own observation and experience he was led to believe that his opinion was correct. After the details of this case he should not hesitate to recommend a similar proceeding. He related a case in point, which occurred in Guy's Hospital.

Mr. **Canton** detailed with great minuteness the post-mortem appearances in two cases of treplo-peritonitis; in one, the matter was circumscribed; in the other, diffused over the abdomen.

Dr. **Copland** had written on the subject of the paper sixteen years ago. He complimented the author on the treatment he had adopted. It was the only successful case he had ever heard of. The difficulty in cases of this kind was in the diagnosis. In most of the cases he had seen, the effusion had spread generally into the abdominal cavity. In none of these cases had he seen redness of the surface. The appearances after death were various; there was generally found an acrid purulent secretion, sometimes circumscribed, but generally involving the cavity of the peritonæum; the appendix vermiformis was generally diseased.

Mr. Dendy suggested, that in doubtful cases the exploring needle should be employed.

Mr. Hancock objected to this proceeding, as the needle might pass into the intestine, and mislead the surgeon.

Correspondence.

DR. KRUGER HANSEN'S SPECIFIC FOR CHOLERA, THE COMPOSITION OF THE MIXTURA PYROTARTARICA.

[We are indebted to Dr. Golding Bird for he following explanation respecting the composition of Dr. K. Hansen's mixtura pyrotartarica, on which we commented in our last number at page 510.]

The mistura pyrotartarica is in both the Danish and Wirtemberg Pharmacopœias, and in the latter is called *weisse einfache Mixtur*, an odd name for such a compound. It is as follows in the Wirtemberg formula, from which the Danish slightly only differs.

℞. Liquoris Pyrotartarici libram unam; Olei Vitrioli uncias tres. Distillent ad siccum. Liquori obtento, adde spiritus theriacalis camphoratæ uncias viginti.

The *Liquor Pyrotartaricus* is evidently a mixture of pyrotartaric and pyroracemic acids, with pyrogenous tarry products. It is in all the German, Dutch, and Danish Pharmacopœias, and is called *Brenzliche Weinstein-fleissigkeit*. The following is the formula for its preparation:—

℞. Tartari crudi q. s. Fiat destillatio ex retorta ferrea, ad dimidiam capacitatis repleta, igne prius remissiore, dein sensim ad rubedinem augendo. Producta aerformia, quæ impetuose prorumpant, in refrigeratorio, aqua frigida large circumdata frigefacto, condensantur. Liquorem elicitum filtratione ab oleo empyreumatico per chartam bibulam madefactam, separa.

The other ingredient in the mistura pyrotartarica, the sp. theriac. camph., is thus prepared according to the Pharm. Boruss., Slesv-Holst., Hamb., Hanno., and others:—

℞. Rad. Angelicæ, libram unam; Herbæ Scordii (the Scordium creticum), Rad. Valerianæ, Bacc. Juniperis, aa. uncias tres; Sp. Vin. rect. libras sex; Aquæ com. q. s. Destillatione eliciantur libræ sex, in quibus solve camphoræ, ℥iss.

These formulæ give us a good illustration of the curious polypharmacy, still fashionable among the Teutons and Scandinavians. It is, however, obvious enough, that Dr. Kruger Hansen's prescription contains, in addition to the opium, a very energetic nervous stimulant and diaphoretic in the sp. ther. camph. of the mixt. pyrotart. in addition to the product obtained by distilling the pyrogeneous products from the ignition of crude bitartrate and biracemate of potass with sulphuric acid,. If creosote is yielded by the destructive distillation of tartar, this second distillation would give that body in a purer form, at least, judging by the plan used at present to obtain it.

September, 1848.

ON THE USE OF CHLOROFORM IN MIDWIFERY. REPLY TO MR. CRAIG.

Sir,—I beg the favour of the insertion of a few words, in reply to the unmeritedly severe censures of Mr. Craig, bestowed so liberally on all "the undeliberative administrators" of chloroform in midwifery practice (*vide* Gazette, Sept. 22d.)

I should not have presumed upon your notice, but that Mr. Craig has selected my remarks on this subject (Gaz. August 11, 1848) for special castigation. But so far as I am individually concerned, I think that that gentleman will, if he look again to my words, find that I reprehended the *indiscriminate* employment of anæsthetic agents, while I advocate only their *cautious* use, and desire only to know whether they may be *safely* employed. Not that I assume to myself singularity herein; I believe that if Mr. Craig had taken sufficient pains to ascertain the fact, he would have found that they form a very small number to whom he could have affixed the charges of unconscientiousness, suppression as to failures, with other moral delinquencies which he too freely employs in speaking of those who have ventured to use a remedy which he proscribes. For myself, I can honestly affirm, that I am far from being the reckless thick and thin advocate of "doubtful," "dangerous," "poisonous" agencies, which might be inferred from Mr. Craig's remarks. I hope, that having a full sense of human destiny, I hold in due value human life: while I would by all means have the domain of the science of healing extended, I would by no means trifle with life, much less, in the words of Mr. Craig, select as my victim "the wife of my bosom."

I would, in conclusion, suggest to Mr. Craig, that such injurious insinuations and unqualified condemnations of those from whom he differs, is not the most advisable nor the speediest method by which he or any one else will arrive at truth.

I remain, &c.

W. B. Kesteven.

Holloway, Sept. 28, 1848.

Medical Intelligence.

QUARANTINE PRECAUTIONS AGAINST CHOLERA—ORDER IN COUNCIL.

A COMMUNICATION has been received by the Commissioners of the Customs' department, through their secretary, from Mr. Greville, one of the clerks of the Council, stating that with reference to his communication, dated the 15th of June last, directing all vessels arriving in the United kingdom, having foul bills of health (with reference to cholera), to be released from quarantine without any medical visit, provided that no case of cholera had existed on board any such vessel for a period of 10 days previously to her arrival, he (Mr. Bathurst) has been directed by the Lords of the Council to state for the information of the Commissioners of the Customs, that it is the expressed desire of their Lordships that the before-mentioned regulation should still continue in force. Mr. Bathurst had also to state that he was now further directed by the Lords of the Council to inform the commissioners that their Lordships are of opinion that instructions should be forthwith transmitted to the different ports in the United kingdom, directing that in the event of the arrival of any vessel on board of which a case of cholera shall have occurred, such vessel shall be detained under the restraint of quarantine until the clothing and bedding of the following persons shall have been thoroughly immersed in water, under the direction of an officer of the Customs—viz., 1. Of all persons who shall have died of cholera on board of such vessel at any foreign port or on shore at such port. 2. Of all persons who shall have died, or who shall have had an attack of cholera on board of such vessel during her homeward voyage. And that should any vessel arrive with cholera actually on board, such vessel should be detained under quarantine at her port of arrival until further orders from the Lords of the Council are received. In pursuance of this communication from the Lords of the Council, *with a view to prevent the introduction of cholera into this country* by vessels arriving from abroad, express directions have been forwarded by the commissioners to the officers of the Customs' department at the several ports and places throughout the United kingdom, as well as to the port of London, to take care that their Lordships' orders be duly obeyed.

THE CHOLERA IN RUSSIA.—RIOTS IN CONSEQUENCE OF ALLEGED POISONING.

A LETTER, dated St. Petersburgh, 10th inst., gives an account of a disturbance which occurred in that city in consequence of the cholera having recommenced its ravages with increased severity, and particularly amongst the poorer classes. A report was circulated amongst the people, that the aristocracy had employed poison to cut them off. They immediately constructed barricades. The troops were about to attack them, when the Emperor arrived on horseback, attended by a single aide-de-camp. The Emperor ordered the troops to fall back, and, ascending the barricade, he addressed the insurgents as follows:—

"The cholera, my children, is a chastisement which God inflicts on men, and to which they must submit with resignation. All the reports of poisonings are pure falsehoods, invented by evil-minded persons, who are the enemies of the people."

The insurgents, who had cast themselves on their knees, as in the attitude of prayer, when they perceived their Czar, remained silent, with the exception of two, who commenced a reply. The Czar ordered the insurgents to arrest those two men, and then commanded the troops to return to their barracks. The insurgents immediately seized their comrades and delivered them up to the police. They demolished the barricades and separated peaceably.

SANITARY LEGISLATION. PENALTIES FOR IMPORTING DISEASED CATTLE AND EXPOSING FOR SALE DISEASED MEAT.

AN Act was passed in the late session to prevent the importation of diseased sheep and other cattle, and also to prevent until the 1st of September, 1850, the spreading of contagious or infectious disorders among sheep, cattle, and other animals. By this statute, infected sheep exposed for sale may be seized and destroyed, together with pens, hurdles, &c., with power to impose a fine of not exceeding £20, on parties exposing cattle knowing them to be diseased; a like penalty on persons exposing meat unfit for human food, with power to seize and destroy the same. The Privy Council may make regulations as to the removal of sheep, &c., and as to the purifying of yards, stables, &c. The act contains 22 sections, pointing out the penalties for disobedience, and the manner in which the fines are to be levied and recovered.

The following useful hygienic provision is introduced into the 11th and 12th Victoria, chap. 107, section 3. "And whereas it is expedient to make more effectual provisions for preventing the exposure for sale of any meat unfit for human food; be it enacted, that if any meat unfit for human food be exposed or offered for sale in any market, fair, or other open or public place, it shall be lawful for such clerks, inspectors, constables, policemen, or other persons, authorized as aforesaid, to seize the same, and to report such seizure to such mayor or justice as aforesaid, and such mayor or justice may either order the same to be restored or to be destroyed, or otherwise disposed of, as aforesaid; and any person publicly exposing or offering such meat for sale shall, upon conviction, forfeit and pay for each and every such offence a sum not exceeding £20."

ON THE NECESSITY OF RESTRICTING THE SALE OF POISONS.

It is certainly competent to the authorities to check the present facilities for obtaining poison, and this is a point of more consequence than might at first be thought, for our modern Locustas have fortunately no extensive acquaintance with the properties of deadly drugs. In every single case which has been investigated, we believe that arsenic, in its commonest form, has become the agent of death, insomuch that in the recent examples it was proved in evidence that the term "white powdering" was used in the village as equivalent to poisoning. By stopping, therefore, the indiscriminate sale of arsenic, according to one or other of the numerous regulations which have been recommended for this purpose, the chief, if not the sole instrument of mischief, would be removed from the reach of the criminal. In the next place, though it may seem unnaturally cruel to add a single ounce to the burden of the parish surgeon, yet we do conceive that the peculiar opportunities of that officer enable him, when his vigilance has been once quickened by suspicion, to co-operate most effectually with the local authorities in the detection of this hideous crime. But, beyond all other measures, it is imperatively necessary that the security supplied by the common law of the land against foul play with human life, should be no longer negatived by the criminal parsimony of county officers. We mean that the duties of the coroner should not be circumscribed by the economy of his paymasters. It is matter of notoriety, that many a suspicious case of death is slurred over without notice in order to save the fees incurred by the inquest; and we are fully persuaded that the impunity thus systematically secured to a deed of death has often been mainly instrumental in urging the criminal upon a career of murder. What apprehensions, indeed, could be entertained of law or justice by a woman who had been already left to the undisturbed perpetration of six successive homicides? Even if the first inquest had been unsuccessful, yet the certainty that each attempt would be followed by an inquiry which might be more effectual than the last, would of itself have induced some little scruple and hesitation, and disturbed, at all events, that triumphant course of guilt which combined the stimulus of success with the experience of impunity, and led the ignorant and vicious to believe that to take the life of another was a deed as safe as they had found it to be easy.—*Times.*

RESULTS OF FREE TRADE IN POISON.

[We extract the following from a provincial paper.] An inquest was recently held at Filkins, Oxfordshire, before James Westell, Esq., Coroner for the western division of the county, touching the decease of Harriet Kitchener, an interesting young woman, wife of the toll-keeper at the adjoining parish of Broughton Pogis, and who, it was alleged, had come to her death through poisoning. From the nature of the evidence, it is not unreasonable to believe that she has fallen a victim to the injudicious practice of allowing the keepers of "general shops" in the country, though totally unacquainted with chemistry, to retail drugs of a deadly description, the testimony of the medical man clearly showing that, on making a post-mortem examination, and subjecting the contents of the stomach to a variety of tests, the result proved the presence of a large quantity of arsenic, which arsenic, it was proved, had been most reprehensibly supplied in the manner above noticed to Mary Ann Batten, an intelligent child, ten years of age, who purchased it for the deceased at the shop of a Mrs. Smith, at Filkins, though this was attempted to be denied by the shopwoman, Ellen Wroe, who served it. It was stated by one of the jurors that another child had bought precipitate of mercury at the shop on the same evening, and this was subsequently proved to have been correct—a little girl, named Harriet Cook, having purchased some, with other articles, for her mother. The coroner, in summing up, commented in strong terms on the unsatisfactory nature of the evidence adduced by Miss Ellen Wroe, who either could not or would not remember what had taken place, and had accordingly given them vague statements, totally different from those adduced by other witnesses. The question the Jury had to decide was, whether the deceased had taken such poison by mistake or intentionally. If they arrived at the first conclusion, their verdict would be one of accidental death; but if they considered that she had committed suicide, they must pursue a further inquiry with the view of ascertaining the state of mind in which she was at the time. After consulting for a short time, the Jury gave as their verdict, *That the deceased died from swallowing arsenic, but whether designedly or by mistake, there is not sufficient evidence to show.* [To the particulars which we have thus given it is unnecessary to add but a few words. Although, perhaps, from the intricate circumstances by which the case was surrounded, and the complicated nature of the evidence adduced, it was difficult for the jury to arrive at another conclusion than that which they unanimously came to, yet one thing disclosed at the inquest is certain. Two little children of tender years go to the "general shop" of a country village, where it would appear that drapery and drugs, provisions and poison, are indiscriminately dealt out to purchasers, and, without any question being asked of them, they receive upon paying their penny, enough poison to produce death! Surely this is an evil that requires a remedy. Either ignorant persons should not be permitted to retail poisons, or such things should only be sold to grown-up people, and then never without the purpose for which they were required being distinctly ascertained.—Ed. *B. M.*]

CAVENDISH SOCIETY.

The following gentlemen have been elected office-bearers of this Society:—

President. — Professor Graham, V.P.R.S. *Vice-Presidents.* — Arthur Aikin, Esq.; Professor Brande, F.R.S.; Earl of Burlington, F.R.S.; Professor Daubeny, F.R.S.; Professor Faraday, F.R.S.; Rev. Wm. Vernon Harcourt, F.R.S.; Sir R. Kane, M.R.I.A.; The Marquis of Northampton, P.R.S.; Richard Phillips, Esq., F.R.S.; William Prout, M.D. F.R.S.; Thomas Thomson, M.D. F.R.S. L. & E.; James Thomson, Esq., F.R.S. *Treasurer.*—Henry Beaumont Leeson, M.D., St. Thomas's Hospital, Southwark. *Council.* — Jacob Bell, Esq.; Benjamin Brodie, Esq.; George E. Day, M.D.; Warren Dellarue, Esq.; J. P. Gassiot, Esq., F.R.S.; J. J. Griffin, Esq.; A. W. Hofmann, Esq., Ph.D.; Professor W. A. Miller, F.R.S.; Jonathan Pereira, M.D. F.R.S.; Lyon Playfair, Ph.D. F.R.S.; R. Porrett, Esq., F.R.S.; Professor T. Redwood; Edmund Ronalds, Ph.D.; Professor Wheatstone, F.R.S.; Alfred White, Esq., F.L.S; Lieutenant-Colonel Yorke. *Secretary.*—Robert Warington, Esq., Apothecaries' Hall, Bridge Street, Blackfriars. *Collector.*—Mr. Charles Woodfall, 7, Canterbury Place, Walworth.*

The Cavendish Society is instituted for the promotion of Chemistry and its allied sciences, by the diffusion of the literature of these subjects. The Society effects its object by the translation of recent works and papers of merit; by the publication of valuable original works, which would not otherwise be printed, from the slender chance of their meeting with a remunerative sale; and by the occasional republication or translation of such ancient or earlier modern works as may be considered interesting or useful to the members of the Society. Members who pay an annual subscription of one guinea are entitled to a copy of every work published by the Society for the period during which their membership continues. The number of works thus published will necessarily depend on the number of annual subscribers; but it is anticipated that, when the advantages afforded by the Society become generally known, the number of subscribers will be adequate to the expense of publishing three octavo volumes each year. The works of the Society will be handsomely printed, on a uniform plan, for members only, their publication being conducted by the Council, who are annually elected, by ballot, from among the members, each member having a vote. The first volume of the Society's publications, edited by Professor Graham, and entitled "Chemical Reports and Memoirs," is now in the hands of members. In choosing these Reports a selection has been made of those which treat of the present condition of our knowledge in certain branches having a special interest in the present state of chemical science; and the Memoirs are on subjects of general and practical interest.

The translation of Gmelin's Chemistry is in a forward state. The first volume of the work, which will form the second of the Society's publications, will be ready for circulation in a few months. This, together with the volume of "Chemical Reports and Memoirs," the members will receive in return for their first year's subscription; and should the number of members increase to the extent expected (from about 600, the present number, to 900 or 1,000), the Council will be enabled to publish another volume of Gmelin's Chemistry as part of the return for this year.

With reference to future publications, several works have been brought under the consideration of the Council, among which are—

1. The Life and Works of Cavendish. 2. Rammelsberg's Dictionary of the Chemical part of Mineralogy. 3. Kopp's History of Chemistry. 4. Buff's Outlines of Experimental Physics for Chemists. 5. Otto's Economic Chemistry. 6. Berthier on Assaying. 7. G. Rose's Crystallography.

It has been considered by the Council that the completion of the translation of Gmelin's Chemistry ought to be effected with the least possible delay, and they therefore propose making arrangements for the publication of two more volumes of the work next year, one volume to be a continuation of *inorganic*, and the other the commencement of *organic* chemistry. "The Life and Works of Cavendish" have been suggested as the third volume for the second year, should the funds of the Society admit of the publication of three volumes.

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* Office of the Society, at Mr. John Joseph Griffin's, 53, Baker Street, Portman Square, where members, not otherwise supplied, may receive the works of the Society on application. The Society has also local secretaries in most of the principal towns of Great Britain.

ROBT. WARINGTON,
August 1848. Honorary Secretary.

THE GENERAL HOSPITAL, NEAR NOTTINGHAM.

IT is gratifying to report that, during the last year, 1131 of the afflicted poor have partaken, within this hospital, of the important advantages of skilful medical treatment and attentive nursing; and that advice has been given, and medicines dispensed, to 3843 out-patients. Still it must be matter of regret that, in a time of unusual adversity to the poorer classes, it should have become necessary for the Governors to resolve, at their Annual Meeting, on the 29th of March, that the four additional beds which were put up in April 1844, should not be occupied during the present depressed state of the finances. This painful course was taken in consequence of the large sum of £826. 10s. 4½d. appearing upon the year's account as the balance against the Charity, which had accrued from the following causes, viz. the increased prices of provisions, the unusually large arrear of unpaid subscriptions, and unusually small receipts of legacies and donations. In reference to these points it may be observed, that, could provisions have been purchased at the same prices as in the year ending on the 1st March, 1846, the expense in the Matron's department would have been about £1800, instead of £2006. 2s. 7½d., and that the sum derived from subscriptions, legacies, and donations, fell short of the annual receipt, upon an average of the last ten years, by £702.

The Governors are apprised that there will be an election on the 2d of November, the day of the ensuing Anniversary, of a successor to Mr. Francis Sibson, who has resigned the office of Resident Surgeon Apothecary—an office he has filled with great medical ability, with uniform and unwearied kindness to the patients, and to the complete satisfaction of the Weekly Committee, for the last thirteen years.

⁂ It appears that the average daily number of in-patients in 1847-8 was 129, and each remained, on an average, 41 days. The number of out-patients was 647, and each remained on the books about 62 days.

The physicians to this useful Provincial Institution are—Dr. R. S. Hutchinson, Dr. J. C. Williams, Dr. C. Storer; the surgeons—Mr. W. Wright, Mr. G. M. White, and Mr. H. C. Attenburrow.

THE CHOLERA IN PARIS.

L'Union Médicale reports that a case of Asiatic cholera, fatal in twelve hours, has just occurred at the Hôtel Dieu, in Paris, but there is no account of the disease having spread.

THE NEW GENERAL BOARD OF HEALTH.

THE Queen has been pleased to constitute and appoint Anthony Ashley Cooper, Esq. (commonly called Lord Ashley), and Edwin Chadwick, Esq., C.B., to be members of the General Board of Health.

The General Board of Health held its first sittings at Gwydyr House on Tuesday last; the President, the Right Hon. the Viscount Morpeth, in the chair. The Board was attended by Professor Owen, Dr. Southwood Smith, Dr. Sutherland, of Liverpool, and Mr. R. D. Grainger.

NAVAL MEDICAL APPOINTMENTS.

MEDICAL Officers in the navy have commonly to complain of the slowness of their promotion—seldom have we to record, that it comes too heavily on them. Yet the following is a case in point:—

A vacancy having occurred in the Marine Hospital at Plymouth, Dr. Andrew Millar, of the Hibernia, was appointed to the vacancy, and Dr. Vaughan, of the Sidon, was appointed to the Hibernia, vice Millar, by the Lords Commissioners of the Admiralty. Before the news of the promotion reached this place, Dr. Watts, of the Naval Hospital, Malta, died, and again Dr. Millar had the good fortune to receive the vacant appointment by Sir William Parker. The latter is certainly the best, but it remains to be seen to which of the two Dr. Millar will ultimately be appointed. Sir William Parker has attached a note to his order to the effect that, "notwithstanding the appointment of Dr. Millar to Plymouth, he is to continue at Bighi, till the wishes of the Lords of the Admiralty can be ascertained on the subject."

FORMULA FOR THE PREPARATION OF THE ETHEREAL SOLUTION OF GUN-COTTON.

WE have found considerable difficulty in preparing the gun-cotton in a state to ensure its solubility in sulphuric ether. Our experiments would lead to the conviction, that the finest quality of gun-cotton, which we have had no difficulty in preparing, is insoluble, or nearly so, in that liquid. A gun-cotton, of ready solubility, and easy manufacture, may be prepared as follows:—Take of nitric acid, sp. gr. 1·350 (the ordinary sp. gr. of commercial nitric acid), ℥ij.; sulphuric acid (commercial) ℥iv. Having mixed the acids in a glass vessel, stirring them with a glass rod, add immediately, of freshly carded cotton, ʒij. ℈ij., and digest for the period of fifteen minutes. The acid is now to be poured off the cotton, and the latter washed with water until litmus paper is not affected. The cotton is to be finally squeezed between the folds of a clean towel, to remove as much water as possible; teazed out, and finally pressed between sheets of blotting paper, until quite dry, and instantly thrown into rectified sulphuric ether. The quantity of gun-cotton thus formed is sufficient for about a pound of ether. It should form a transparent, colourless liquid, somewhat of the appearance of thin mucilage.—*British Amer. Journal.*

STATISTICS OF THE MEDICAL PROFESSION IN THE RUSSIAN EMPIRE.

IN 1839, there were in Russia 4787 physicians, of whom 2529 held official occupations—5 in the Privy Council, 51 Acting Councillors of State, 244 holding this honorary title, 391 veterinary surgeons, 9 oculists, 2 professed lithotomists, and 89 dentists. About one-sixteenth of the whole number resided in large towns. Surgery stands higher than medicine. Those who dispense medicines are paid on a better scale than those who prescribe them.—*L'Union Medicale.*

DR. C. E. LAVENDER ON THE INJURIOUS EFFECTS OF SULPHATE OF QUININE.

I AM by no means persuaded that quinine is a harmless agent, or that it may be given in almost any quantity without producing hurtful consequences. When pushed too far, painful fulness of the brain, alarming sounds, and ringing in the ears, deafness, slight delirium, twitching of tendons and hiccough, will be some of the consequences. Caution must, therefore, be exercised not to push this valuable remedy too far. Overwork the brain, and the vital powers may become exhausted by too long continued and excessive action. In this way, I have no doubt, frequently-repeated heroic doses of quinine exhaust the vital powers, cause indirect debility, and thus hasten that very collapse (in fever) which quinine, judiciously administered, is so well calculated to avert.—*American Journal of Med. Sciences*, July 1848.

APOTHECARIES' HALL.

NAMES of gentlemen who passed their examination in the science and practice of medicine, and received certificates to practise, on Thursday, September 14th, 1848:—John Wilmhurst, Reading—Walter Garslang, Clitheroe, Lancashire—James Parker, Aughton, Lancashire—James Thomas Jackson, Ulverstone, Lancashire—William Prowse, Bristol—John Jones Merriman, Kensington—William England, Dudley, Worcestershire.

OBITUARY.

ON the 22d inst., at Staines, John Winstone, M.D. M.R.C.S.L., late of 35, Charterhouse Square, in the 70th year of his age.

At Sleaford, Lincolnshire, on Sunday, the 17th inst., Mr. Thomas Jacobson, surgeon, deeply regretted and deservedly lamented.

Selections from Journals.

RESECTION OF THE ELBOW: SUBSEQUENT AMPUTATION OF THE UPPER ARM. BY CHARLES COTTON, ESQ. M.D. F.R.S. LYNN.*

ISABELLA BOULTON, aged twenty-four years, admitted into the Lynn Hospital, Feb. 7th, 1847, with disease of the left elbow, of twelve months standing. Had two years before been a patient in the hospital for disease of the same joint, which yielded to constitutional treatment, and Scott's plan. She complains of frequently-occurring torturing pains in the shoulder and hand, an the least movement of the limb causes insufferable distress. The fore-arm is semi-flexed and fixed, and the joint ends of the elbow bones are considerably enlarged.

February 25th. Excision of the diseased parts having been sanctioned in consultation, the patient was brought into the operating room, and seated in a chair, in the presence of most of the medical gentlemen in the town and neighbourhood, who attended to witness the operation, and *the use of ether inhalation*; the influence of ether being speedily and completely induced, and kept up by causing the patient to inhale the vapour at intervals. Mr. Cotton, sitting behind, and grasping firmly the fore-arm with the left hand, proceeded to make, with a strong scalpel, an incision about three inches in length, on the ulnar side of the back of the elbow, in direction of the limb, and by a bold cut from outer to inner condyle, falling into the middle of it at right angles, penetrated the articulation. The flaps were then dissected back, and the ligamentous and muscular connections (much disorganized) further detached, by cutting close upon the bones. The ulnar nerve, imbedded in greatly degenerated soft parts, was turned over the inner condyle. The ends of the bones were now protruded, and being deeply damaged by caries, the entire removal of their articular extremities was determined upon, and quickly effected, by applying the saw, (the soft parts being guarded by a copper spatula,) to the end of the humerus, and afterwards to the olecranon, and continuing the sawing through the head of the ulna, that of the radius being removed by the cutting forceps. Three freely-bleeding vessels were secured by ligatures, and the flaps brought in apposition by sutures. The patient, *who throughout did not betray the least evidence of pain or knowledge of the operation*, sobbed hysterically on the withdrawal of the ether, and when removed to bed vomited, and complained much of its depressing and nauseating effects. The patient slowly recovered and left the hospital, but returned on the 7th July. There has been gradual wasting of the limb, and constant pain, which now extends from the elbow to the shoulder, chest, and back; entire loss of mobility; the hand has a peculiar purple-like and shining appearance; the thumb is contracted towards the palm, and the fingers fixed over it; elbow admits of passive flexion, giving great pain; desires to have the arm removed.

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* Forwarded for insertion in the LONDON MEDICAL GAZETTE.

On the 26th. Upper arm amputated at the centre, by antero-posterior flaps; great vascularity, five ligatures required. Ether inhaled; had no recollection of the operation, although she moaned much during its performance, and afterwards felt great sinking and distress at the stomach, and became pallid and very sick. Ordered a teaspoonful of brandy to be repeated a few times at intervals. The stump was quite healed by the 25th August.

Morbid appearances of the amputated limb.—On dissecting the amputated limb it was found that all the structures around the elbow were consolidated; a fistulous passage from a small posterior subcutaneous abscess led to the head of the ulna; tendinous attachment of the biceps to tubercle of the radius undisturbed; brachialis anticus converted into a tawny yellowish tough fascial structure, adherent to the ulna, lined by the synovial membrane, and forming in front the capsule of the joint; triceps tendon firmly attached posteriorly; the median and radial nerves in the region of the elbow appeared larger than natural, as did *the ulnar nerve, upon which, about an inch apart, were found two bulbous expansions, the size of horse beans*; the ends of the bones, tolerably compact in structure, and but little enlarged, were strongly connected together by direct and oblique fibres of ligamentous tissue, presenting several points undergoing cartilaginous and bony transformation; soft parts of the forearm and hand pale and atrophied.

Remarks.—The limited circumstances of the patient, and considerations whether a shortened and stiffened limb might not prove less of service than the adaptation of an artificial one after amputation, alone contraindicated excision. The general health appeared good, age favourable, and the pain and distress to have only a local origin; the reported results of similar operations, too, were highly encouraging, and the use of ether-inhalation disarmed of importance any objections which might be urged on the ground of pain and tediousness of the operation. Nothing at first could exceed the well-doing and progress of the case, and the inspection of the parts afterwards removed, showed how admirably nature meets such emergencies; granulations proceeded quickly but soundly to fill up the wound, the discharge seemed to expend itself freely, daily becoming more healthy, and partial motion of the hand was allowed, without much inconvenience. This desirable state of matters did not, however, prove of lasting duration; in less than five months a return of pain, (sympathetic neuralgia, and hyperæsthesia, showing permanent, local, or centric morbid impression,) together with the wasted and useless state of the limb, now an incumbrance, obliged the patient again to present herself at the hospital, and to beg that the arm might be amputated.

The failure of the operation of excision seems justly attributable to the advanced stage of disease of the joint-ends of the bones, destroying, secondly the muscles, &c., and seriously involving the nerves. An error was, most probably, committed in the endeavour to preserve the mobility of the elbow, instead of securing absolute rest and *utmost proximity* of bone-surfaces, to favour the deposition of callus, and bring about close union by anchylosis, hard or soft, particularly as the degenerated state of the muscular structure, observed at the time of the operation, gave but little hope of its peculiar irritability and contractile power being likely to be retained or regained.—*Prov. Journ.* 1848.

SORE NIPPLES AND THEIR TREATMENT.

Sore nipples may not only incapacitate a woman from nursing,—a deprivation in itself often sufficiently grievous,—but they may, as we have before observed, give rise to mammary abscess, from an extension of the inflammation backwards, along the ducts, to the substance of the gland. This, in point of fact, is the great danger to be apprehended, and every other consideration should give way to it.

When there is reason to dread such a result, the child is entirely withheld from the affected breast, which is kept soft by rubbing, and if the nipple itself appear to be the seat of any inflammation, a bread and water poultice is applied to it.

Of the various topical applications for sore nipples employed in this Hospital, it may be well to mention two or three whose value has been established by long experience.

Amongst these the tincture of catechu holds a high place, and has been found a very excellent astringent; like the other remedies of this class, it is best adapted for the simply excoriated or abraded nipple. Nearly similar to it is the solution of pure tannin, so highly recommended by Mr. Druitt. It is made by dissolving five grains in an ounce of distilled water. We have not observed it to possess any superiority over the catechu, except in being more cleanly. The following is a favourite lotion with Dr. Johnson, who has been in the habit of using it for many years: — ℞ Sub-borat. Sodæ, ʒii.; Cretæ precipitat., ℥i.; Spiritûs Vini, Aquæ Rosæ, aa ℥iii. M. fiat lotio.

This may be applied alternately with the following ointment, or the latter may be used alone: — ℞ Ceræ Albæ, ʒivss.; Ol. Amygdal. dulc. ℥i.; Mellis despumat. ℥ss.; Dissolve ope caloris, dein adde gradatim, Bals. Peruviani, ʒiiss. M. fiat unguentum.

In some cases we have seen benefit result from the use of tincture of galls and compound tincture of benzoin (Friar's balsam), in equal proportions.

It is always well to have in mind a number of these different preparations, for it not unfrequently happens that one will answer our purpose when others have failed. For fissured nipples some authors strongly advise the application of solid nitrate of silver; but our experience does not permit us to speak of it. Dr. Johnson thinks it is sometimes a good remedy in such cases, at a remote period of delivery; but that during the puerperal state its use is not advantageous, as it is apt to be followed by mammary abscess.—*M'Clintock and Hardy's Practical Observations*, pp. 13-14-15.

HÆMORRHAGE FROM THE UMBILICAL CORD ARRESTED BY PLASTER OF PARIS.

[Mr. Hill has addressed the following communication to the *Dublin Medical Press*:—]

I was called upon to see an infant, eight days old, from whose navel there had been bleeding for five hours. Several applications had been applied without effect. The child appeared considerably sunk by the discharge, rather full size, cord thick, and vessels apparently large. I put a small compress on the part, which was retained by the pressure of the finger. I saw at once the nature of the case, and sent home for some plaster of Paris that I am in the habit of keeping. I mixed up two table-spoonfuls of it in a cup with water into a thick paste, and hastily removing the compress, I let the contents of the cup flow out on the part, where it immediately settled and hardened. I remained with the child some hours, and kept the abdomen partially exposed to the air. A few cracks having taken place in the plaster, I filled them up with fresh. I then put a bandage on the infant, removing it occasionally, and filling up the cracks that took place for the purpose of keeping the plaster solid, which I did for four days. It was then removed, and the bleeding did not return. On examining the cast, there appeared three small papillæ, which I suppose corresponded to the two arteries and vein which they occupied until the vessels became impervious.

I claim no merit of originality for this practice. I took the hint from Dr. Churchill, who, in a very excellent paper on the umbilical cord, published in the 50th volume of the *Edinb. Medical and Surgical Journal*, p. 302, for the year 1838, has suggested this plan of treatment. The practitioner in this case, who was a pharmacien, put a large piece of old linen about the cord, after dividing it, and being saturated with blood it became hard, and threatened erysipelatous inflammation on the surface, to avoid which, he pulled away the cloth and remains of the cord before the process of separation had begun, or the vessels became impervious. The plaster is worth a trial in such cases, before more active means are adopted; it has to recommend it simplicity, and freedom from danger.

SYMPATHY OF THE IRIDES IN CASES OF AMAUROSIS.

A curious phenomenon is sometimes observed in the eyes of amaurotic individuals, which affords a beautiful illustration of the sympathy between the two organs. A patient may be perfectly blind in one eye; but if the two irides be examined together, as to the power of contraction of the pupils, both contract ~~and dilate~~ normally. In such cases the impressions made upon the retina of the amaurotic eye might be supposed the cause of the motions of the corresponding pupil. This is not really the case; for if the healthy eye be closed, the pupil of the other at once becomes motionless: it is from sympathy that the impression upon one produces an effect on the other. Hence, in examining an amaurotic eye respecting the motions of the iris, it is always necessary to close the healthy organ, when the real influence of the retina over the iris of the diseased eye will be seen. In some cases, however, in which both eyes are amaurotic, the motions of the iris are performed naturally; but in the great majority, the condition of the pupil affords indication of a paralysed retina.—*Morgan on Diseases of the Eye.*

BIRTHS & DEATHS IN THE METROPOLIS

During the week ending Saturday, Sept. 23.

Births.		Deaths.		*Av. of 5 Sum.*	
Males....	638	Males....	541	Males....	495
Females..	612	Females..	497	Females..	477
	1250		1038		972

DEATHS IN DIFFERENT DISTRICTS.

(34 *in number;—Registrars' Districts*, 129. *Population*, in 1841, 1,915,104.)

WEST—Kensington; Chelsea; St. George, Hanover Square; Westminster; St. Martin in the Fields; St. James .. (Pop. 301,326)	130
NORTH—St. Marylebone; St. Pancras; Islington; Hackney ...... (Pop. 366,303)	170
CENTRAL—St. Giles and St. George; Strand; Holborn; Clerkenwell; St. Luke; East London; West London; the City of London ....(Pop. 374,759)	198
EAST—Shoreditch; Bethnal Green; Whitechapel; St. George in the East; Stepney; Poplar ....(Pop. 393,247)	259
SOUTH—St. Saviour; St. Olave; Bermondsey; St. George, Southwark; Newington; Lambeth; Wandsworth and Clapham; Camberwell; Rotherhithe; Greenwich ....(Pop. 479,469)	281
Total	1038

CAUSES OF DEATH.		Av. of 5 Sum.
ALL CAUSES	1038	972
SPECIFIED CAUSES..............	1036	968
1. *Zymotic* (or Epidemic, Endemic, Contagious) *Diseases* ..	393	257
Sporadic Diseases, viz.—		
2. Dropsy, Cancer, &c. of uncertain seat	43	45
3. Brain, Spinal Marrow, Nerves, and Senses	102	120
4. Lungs and other Organs of Respiration	78	80
5. Heart and Bloodvessels	36	28
6. Stomach, Liver, and other Organs of Digestion	64	79
7. Diseases of the Kidneys, &c...	12	8
8. Childbirth, Diseases of the Uterus, &c.................	5	10
9. Rhematism, Diseases of the Bones, Joints, &c.	5	7
10. Skin, Cellular Tissue, &c.......	3	1
11. Old Age	43	50
12. Violence, Privation, Cold, and Intemperance	25	8

The following is a selection of the numbers of Deaths from the most important special causes:

Small-pox	34	Paralysis........	16
Measles	13	Convulsions	27
Scarlatina	161	Bronchitis	28
Hooping-cough..	30	Pneumonia......	39
Diarrhœa	46	Phthisis	102
Cholera	7	Dis. of Lungs, &c.	5
Typhus	56	Teething........	6
Dropsy..........	13	Dis. Stomach, &c.	8
Sudden deaths ..	9	Dis. of Liver, &c.	9
Hydrocephalus..	29	Childbirth	2
Apoplexy........	29	Dis. of Uterus, &c.	1

REMARKS.—The total number of deaths was 66 above the weekly summer average. The deaths from Scarlatina are still on the increase.

METEOROLOGICAL SUMMARY.

Mean Height of Barometer .... 29·8
" " Thermometer[a] 56 7
Self-registering do.[b] .... max. 99·1 min. 34·5
" in the Thames water — 56·5 — 56·2

[a] From 12 observations daily. [b] Sun.

RAIN, in inches, ·15: sum of the daily observations taken at 9 o'clock.

Meteorological.—The mean temperature of the week was about 1° below the mean of the month.

BOOKS & PERIODICALS RECEIVED

DURING THE WEEK.

The Student's Clinical Memorandum Book.
Rapport addressé à M. le Délégué du Gouvernement Provisoire sur les Traitements Orthopédiques de M. le Docteur J. Guérin, &c.
Casper's Wochenschrift der Ges. Heilkunde. Nos. 35 and 36. 26th August and 3d Sept.
British American Journal. Sept. 1848.
Henke's Zeitschrift für die Staatsarzneikunde, Nos. 1, 2, 3, 1848.
Plain Directions for the Prevention and Treatment of Cholera. By Thomas Allen, M.R.C.S.

NOTICES TO CORRESPONDENTS.

The communications of Dr. E. A. Parkes and of Dr. C. H. Jones have been received, and will be inserted. Proofs shall be forwarded.

THE GENERAL INDEX.

We have to announce to our Subscribers that a GENERAL INDEX to the *first* 40 *Volumes* of the LONDON MEDICAL GAZETTE will, it is calculated, form a large Volume of about 700 pages. The cost of the INDEX VOLUME, respecting which many inquiries have been made, will be Twenty-four Shillings; and it is proposed to commence it so soon as the Names of *Five Hundred Subscribers* have been obtained.—The printers, Messrs. WILSON AND OGILVY, 57, Skinner Street, will receive the Names of Subscribers.

London Medical Gazette.

Lectures.

LECTURES
ON
PRETERNATURAL AND COMPLEX PARTURITION.

By Edward W. Murphy, A.M. M.D.

Professor of Midwifery, University College, London.

Introductory Lecture.

Review of the rise, progress, and present state of obstetric medicine—Hippocrates—Celsus—Albucasis—Avicenna. The 16th Century—Rhodion—Raynalde—Ambrose Parè—Guillemeau—Operation of turning introduced. The 17th Century—Mauriceau—Harvey—Chamberlen—introduction of the forceps—progressive improvement of midwifery. The 18th Century—Sir Fielding Ould—Chapman—Giffard—Burton—Smellie—William Hunter—Rigby of Norwich—Denman.

Present state of obstetric medicine—Embryology—Intra-uterine—pathology—mechanism of parturition—Anæsthesia—Conclusion.

Gentlemen,—You are now about to enter upon another branch of medical science the Theory and Practice of Midwifery,—a subject which admits, I might almost say courts, the most scientific inquiry; one that is capable of the highest improvement, a correct knowledge of which is of the greatest value to the practitioner, and yet a subject which, I am sorry to add, has hitherto received, and is still receiving, but an indifferent attention. That such should be the case is a matter of deep regret, when we find its consequences recorded yearly, monthly, nay, almost weekly, in the medical periodicals. A case is reported that bears on the face of it the impress of ignorance; a death is recorded, and an inquest held, which establishes the grossest mismanagement of some unfortunate patient: thus the evidences of extreme ignorance in the practice of midwifery are beginning, I regret to say, to accumulate. On the other hand, we may observe a few scientific men exerting themselves with great energy to develope the theory, and to improve the principles, of its practice, a few certainly "rari nantes in gurgite vasto;" but sufficient to prove that midwifery admits the most scientific investigation.

XLII.—1088. *Oct.* 6, 1848.

It appeared to me, therefore, advisable, to devote this first lecture to a general outline of the subject, and, taking a brief review of the rise, progress, and present condition of obstetric medicine, to make you acquainted with its chief and most attractive features. I would wish to excite some desire to cultivate a more intimate acquaintance with midwifery, so as to secure you from the possibility of those mischances that we sometimes read of, and perhaps to stimulate a dormant zeal for its improvement.

In the history of midwifery I shall not occupy your time with minute details of its early origin; I need not commence with Esau and Jacob, the first record of twins, and report, as has sometimes been done, the several remarkable births in the sacred writings; neither is it necessary to relate the obstetric knowledge of the Greek, Roman, and Saracenic periods, which is only interesting so far as it proves the untiring zeal of the fathers of medicine. When midwifery was left only to midwives, we find Hippocrates and Celsus, Avicenna and Albucasis, devoting themselves to its improvement. Hippocrates first alluded to the use of instruments in the practice of midwifery. Celsus pointed out the manner of extracting the placenta. Avicenna of Bucharest describes a forceps, the parent of the present craniotomy forceps; and Albucasis published the first record of obstetric medicine. In his work are drawings of the various instruments then made use of, the number and complexity of which only betray their ignorance of the subject.

The period between the 12th and 16th centuries may be considered as a blank; the faint illumination that midwifery had previously received, was soon lost in the obscurity of the dark ages which succeeded; nor was it until the newly-discovered art of printing gave a facility for communicating a knowledge of medicine, that we find any materials to form a connected history.

In the 16th century, Rhodion published (1502) the first collection of obstetric precepts; this work was translated into English by Raynalde, and published in 1540. The title of Raynalde's book (black letter) is "The birth of mankind; or the woman's book,"* by no means an inappropriate title, as it equally shews the pomposity of the author and the intention of the work, which not only contains numerous precepts for midwives, but also several domestic hints for the patient herself, even to the use of cosmetics.

Midwifery was then a term which perfectly expressed the nature of the practice; a branch that was exclusively confined to midwives; one that was followed only by them, and which received but little attention from medical men. Raynalde's book, although intended for their instruction, was considered by the midwives as an inroad upon their province,—it was consequently opposed by many of them; nevertheless, the attack of the doctor on midwifery was soon more actively followed up. The physician and surgeon began to give obstetrics a larger share of their attention, and hence, in 1573, we find Ambrose Parè* boldly stepping forward to rescue midwifery from the degraded situation in which he then found it. He had the temerity to open obstetric wards in Hotel Dieu, for the purpose of instructing midwives! His rash experiment would have failed, had he not had some means of proving his superior knowledge of midwifery: this he soon accomplished by pointing out and proving the advantage of turning by the feet in shoulder presentations, in preference to the former, and apparently the simpler practice of attempting to replace the head. The precepts and practice of Ambrose Parè were followed and taught by his intelligent pupil Guillemeau, who published, in 1598, "The happy delivery of women."† When artificial delivery was necessary, G.'s chief resource was to turn the child; this operation was performed for all forms of hemorrhage, for convulsions, and arm presentations; it was only withheld in very protracted labours where the child was dead. "For," he observes, "whensoever the child's head is much entered within the os pubis, it is impossible to thrust him upward and turn him, without much endangering the mother, and causing great contusion of the womb, from whence proceeds divers accidents, and sometimes death, as I have seen it often happen." Guillimeau therefore proposed a crotchet somewhat resembling the instrument recommended by my late predecessor Dr. Davis, and by Dr. Ramsbotham, for decapitation of the child, only that it had a more pointed extremity.‡ This instrument G. says "must be fastened to the side of the child's head, as about his ear or bone of the temples, or in some other place if it may be done conveniently, as within the hollow of the eye or hinder bone of the head."§ This crotchet was afterwards improved upon, sometimes made double and locking; but thus far the accoucheur had only two means of effecting the delivery of his patient—either by turning or the crotchet.

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* The Byrth of Mankinde; or the Woman's Boke. By J. Raynalde, 1540.

Fig. 1.

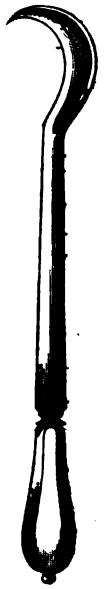

Fig. 1.—Guillemeau's Crotchet.

The 17th century is remarkable for a more rapid advance in the improvement of midwifery. In France, Mauriceau obtained the highest eminence in his profession, and published a most comprehensive work on the subject.*

In England our attention is at once arrested by the illustrious Harvey, who did not give way to the prejudices of his day, and think obstetric medicine unworthy of his notice. He applied his great mind to the development of its principles, and in 1651 published his "Exercitationes de generatione animalium, de partu, de membranis et humoribus uteri." In these he not only brought forward his new doctrine of generation, "omnia ex ovo," which had displaced the absurd speculations of previous physiologists, but he also explained the mechanism of parturition, advocated Parè's and Guillemeau's practice of turning in transverse presentations, mentioned cases of superfœtation in women *that he had attended*, gave numerous illustrations of the duration of pregnancy, both in man and in the inferior animals, and also described several derangements of the uterine functions.

These essays, although no doubt composed long before, had not been published until

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* De la Generation de l' Homme, &c., par Ambrose Parè.

† The happy delivery of women. By Guillemeau. Translation—printed by Hatfield, 1612.

‡ Op. cit. p. 139.

§ Page 188.

* Mauriceau, Traité des maladies des femmes grosses et de celles qui sont accouchées. Ed. 6me, 1721, Paris.

Harvey reached the advanced age of 73. To publish at such an age, when he could hardly hope to reap the profits of his industry, needs some explanation; and as the manner of the publication strongly proves the character of the man, it is worthy of being noticed. Harvey lived in the troubled period of the Stuarts. He was physician to Charles I. He was exposed to the persecutions of the Puritans; but the greatest that he endured, and that which drove him from public life, was from his own profession, in consequence of his heretical doctrine of the circulation of the blood! In his retirement he was not idle, but employed the greater portion of his time in his researches in ovology,—a subject that he followed so entirely for his own amusement, that the results would have been lost perhaps to the profession had it not been for a visit paid to him by his friend Dr. Ent. Among many other subjects of philosophical interest which formed the topics of their conversation, that of generation was alluded to, when Harvey casually referred to his own observations. Dr. Ent requested to see them, hinted about their publication, and after some modest altercation, Harvey brought them to him, with permission to use his own discretion, either to publish or suppress them. "I went from him," says Dr. Ent "like another Jason, in possession of the golden fleece, and when I came home and perused the pieces separately, I was amazed that so vast a treasure should have been so long hidden." Thus was published a work which stands second only to his treatise on the Circulation of the Blood, in the important change which it produced in the opinions of the profession.

About this time appeared a physician as remarkable for the success of his practice, the reputation to which he rose, and the fortune he acquired, as his contemporary was for the loss of his practice, the neglect, almost the contempt to which he was occasionally submitted, while labouring to establish the important theory with which his name has now become synonymous. Such is public opinion, and so capricious are the influences which govern it, that while "the circulator," as Harvey was called, and his new doctrine, were objects of the most galling derision, Dr. Chamberlen, and his secret mode of delivering women, rose rapidly into repute. Chamberlen's secret was the forceps, a most valuable improvement upon the destructive instruments previously in use. As its inventor, Dr. Chamberlen deserves all the credit that belongs to his inventive genius, but we cannot look upon him as contributing in any way to elevate the character of his profession. His invention was kept a close secret, except from his three sons, who also practised midwifery: it was, in fact, a family inheritance. Not only the profession, and consequently the great majority of the public, were deprived of the advantage of the improvement, but, from the great facility which the forceps gave to terminate the delivery of the parturient woman, a temptation was offered to Chamberlen, to which he readily yielded, to use the forceps far more frequently than was either necessary or justifiable. The Chamberlens naturally looked upon the forceps as omnipotent, and, in their zeal, often used it very unscrupulously. At that time Paris was the great school of midwifery. Ambrose Parè, Guillimeau, Mauriceau, raised it to the highest reputation. The celebrity of this new secret operation rapidly spread to France, and Dr. Hugh Chamberlen soon visited Paris, for the purpose of selling his secret. He boldly asserted that it was in his power to deliver any woman without the necessity for destroying the child. It so happened that Mauriceau, then in the zenith of his reputation, had a case of labour so difficult, from extreme pelvic contraction, that he could not hope to extract the child even by perforation: labour was protracted to the eighth day. It seemed a favourable opportunity for Chamberlen, who expressed great surprise that so eminent a man as Mauriceau could not deliver her. He promised to do so in half an hour; several half hours, however, had passed when Chamberlen gave it up in despair. The woman died the following day; and, on inspection, the uterus was found to be torn in several places by the forceps. Louis XIV. was then on the throne of France, and, in those days of arbitrary power, Chamberlen very quickly returned with his secret to England, where he published a translation of Mauriceau's elaborate work.*

This era is remarkable for the advance that midwifery had made: Harvey placed it in connection with one of the most interesting of physiological inquiries. Chamberlen had contrived an instrument which has produced a most important change in the practice of midwifery, and gave the accoucheur an influence which he could not previously obtain; but it was also characterized by the introduction of a principle that has had a most mischievous effect upon it. With the Chamberlens, midwifery was, in the strictest sense of the term, an art—the mode of delivery a secret to be learned; and a meddlesome interference to abbreviate the salutary efforts of nature was viewed as an evidence of superior skill. Without wishing to deprive Chamberlen of the merit that is justly due to his inventive genius, I confess that I can only look upon him in the light of a fortunate empiric, who, like all of that class, called in the powerful aid of mystery and secresy for his own aggrandisement, but, so far as he was concerned, left the profession as ignorant as ever about the proper mode of delivery.

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* The Diseases of Women with Child, and in Child-bed, &c. &c. Written in French by Francis Mauriceau, and translated by Hugh Chamberlen. Lond. 1736.

The lives of Harvey and of Chamberlen form striking contrasts: the scientific eminence of the one — the quackery of the other; the persecution and professional losses of Harvey—the great reputation and affluence of Chamberlen. I regret to find that the unjust distinction seems not to have ceased even with their lives. I speak as a stranger; but, like all strangers on their first arrival in this great metropolis, I visited that venerable pile which contains the ashes of your poets—your philosophers—your men of science—your most illustrious statesmen —your monarchs. While thus tracing through Westminster Abbey the monumental history of your country, I found a most imposing cenotaph to Chamberlen. I looked around, and asked, where is Harvey? I thought I heard its vaulted aisles echoing and re-echoing my question.

During the 17th century, the practice of midwifery was gradually undergoing a change in its character. Hitherto it had been very much neglected, and left altogether to the midwife, unless when the efforts of nature failed in completing the delivery; then that anomalous hybrid, the man-midwife, was sent for; and to send for his assistance, under such circumstances, implied the necessity for an operation fatal to the child, and often extremely dangerous to the mother: the instruments employed were often unmanageable, and the cases very unfavourable. The man-midwife's frequent ill success was anything but advantageous to him, and in no way contributed to raise him in public estimation. The first step in the way of improvement was made by Ambrose Parè: the operation of turning the child in the uterus placed preternatural labours in a new light: the death of the child was no longer the necessary consequence of a cross birth. The next most important change was the introduction of the forceps. An additional security for the preservation of the child was now afforded: it was not necessary to destroy it because a natural labour became difficult. A higher value was therefore placed upon the accoucheur's assistance; the gloomy forebodings that clouded his character began to disappear, and more attention was therefore paid to the improvement of midwifery.

The 18th century consequently included a much more numerous list of eminent obstetric authors. No attention whatever had been paid previously to the mechanism of parturition. It was supposed that the head of the child always passed in the conjugate measurement of the pelvis, until Sir Fielding Ould, of Dublin,[*] made it the object of his attention. Having been at Paris, and present at a labour which was delayed in consequence of the funis being round the neck of the child, he had the opportunity of observing, that, while the head was descending and receding with the pains, the face always turned upwards. Those who were present thought it an irregularity, and would no doubt have interfered, only fortunately a few pains completed the delivery. This fact was not lost upon Sir Fielding Ould: he made the manner in which the head passed through the pelvis the subject of his constant attention, and first proved its spiral direction. This also was the first step towards founding a true basis for obstetricy—the first attempt to determine from observation, not from preconceived notions, the true process of parturition. At this period also the invention of Chamberlen attracted much attention. The high value attached to a means of delivery by which both mother and child might be saved, made "the secret mode of delivering women" a most desirable problem to solve. Of those who could not find it out, some of course abused it; and we find Dr. Maubrey, in his "Female Physician," blaming very much "the dangerous instruments then in use."[†] Others, however, took a different course: inventive genius was put on the rack to discover the secret, and some succeeded in finding out at least the principle of construction. A series of cases were detailed by Giffard, and published by Dr. Hody, in which a forceps is figured as Chamberlen's, but made altogether differently. Afterwards Chapman, the first who publicly taught midwifery in London, published a work especially for the purpose of making known its use, and thus divulging the secret. The forceps Chapman employed was similar to Giffard's, but Chamberlen's was still a secret. From this time the forceps and other obstetric instruments were constant objects of attention. The man-midwife, as he was called, became an operator of no mean importance; and, therefore, all agreed in offering improved instruments; but the different writers of the period present a remarkable contrast in the alterations they proposed, and in their manner of suggesting them.

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[*] A Treatise on Midwifery. By Fielding Ould. Dublin, 1742.

[†] The Female Physician. By John Maubrey, M.D. London, 1724. Maubrey's 5th qualification of the "Extraordinary (or man) Midwife" is as follows:—

"He ought in fine to handle her (the patient) decently, and treat her gently, considering her as the weaker vessel, whose elegant and tender body will admit no rough usage. Wherefore, upon this account, I would have all practitioners in the art debarred from the use of instruments, which would secure many a mother from being wounded or mangled, and many an infant from being cut or torn to pieces." Again, he says—"What can be more inconsistent with the tender nature of women, or more terrible to them, than to see men come armed against themselves and their tenderer infants with knives, hooks, and iron forceps?"—p. 180.

Dr. Burton, of York, offers to his readers' attention a most complicated machinery in most bombastic language, in which he professes, in the most patriotic spirit, his strong desire "to prefer the public good to his own private interest," and his wish "that every person may be as capable of assisting the fair sex as himself."* Dr. Burton's patriotism is expended in the construction of instruments that few but himself could use. Compare the language and the instruments—the inflation of the one, and the complexity of the other—and you can imagine the original of Sterne's "Dr. Slop." No wonder Mr. Shandy complained of "his vile instruments."

FIG. 2.

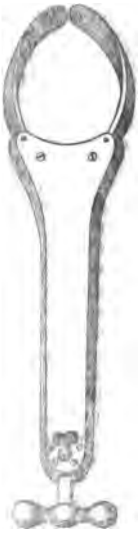

FIG. 2.—Dr. Burton's Forceps.

Smellie* forms a remarkable contrast to Burton: to him we are indebted for those improvements, both in the forceps and other instruments, which are the basis of their present construction; by him also we are taught a more careful discrimination of suitable cases, as well as clearer rules, for the application of the forceps. Smellie published a comprehensive work on Midwifery, as well as the first series of plates in folio, which made any approach to an accurate representation of the position of the child in the uterus, though it still contained the errors of the day, in which a vivid imagination supplied all the defects of anatomical knowledge.

The public prejudice against obstetric operations, and their dread of them, still prevailed to a great extent; and, notwithstanding Smellie's admitted skill in the use of instruments, he found it necessary to use secresy in his operations. This prejudice also favoured the most virulent attacks against him, and we find him treacherously assailed by an envious rival under the assumed name of Mrs. Nihell†; his lectures were ridiculed, and the phantom or model he had contrived to illustrate his mode of operating, was made the especial object of merriment.

Smellie brought *the art of midwifery* to a great degree of perfection; but to William Hunter we are indebted for a *scientific knowledge* of parturition. The latter followed in the footsteps of Harvey. He carefully traced the development of the ovum, and examined its successive changes from the earliest germ to the matured infant. He described faithfully the alterations of structure in the gravid uterus, and seized with avidity every opportunity that was afforded him to illustrate his subject. The result was, that splendid record of his industry, his "Illustrations of the Anatomy of the Gravid Uterus;"‡ and, whether we consider the success with which, under no ordinary difficulty, he has demonstrated the development of the fœtus, the general accuracy of his conclusions, the fidelity of his facts, and the truth of his illustrations, the work commands our admiration for the research and surprising industry of its author. Hunter's plates differed from all that preceded them: they were faithful representations of nature, and perfectly conveyed his beautiful dissections of the gravid uterus. These plates, and the injected preparations to demonstrate the circulation in the placenta, still maintain their pre-eminent character, and contribute still further to invest midwifery with something having the characters of science.

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* "These dangerous and tedious ways of delivering women induced me to spend a few serious thoughts in order to contrive some more safe and expeditious method of relieving the fair sex; and I hope my labour has not been in vain. And as I always professed myself an advocate to serve my country to the utmost of my power, I do in this (as I have hitherto done upon all occasions) prefer the public good to my own private interest, and therefore now take this method of laying open to the world the improvements that I have made, that every person may be as capable of assisting the fair sex as myself."—*An Essay towards a Complete New System of Midwifery*, p. 231. By John Burton, M.D. London, 1751.

* A Treatise on the Theory and Practice of Midwifery; with Cases. By W. Smellie, M.D. Lond. 1752. A Set of Anatomical Plates, 1754.

† A Treatise on the Art of Midwifery. By Eliza Nihell. 1760.

‡ Anatomia uteri humani gravidi, &c. Will. Hunter, M.D. 1774.

Towards the close of the 18th century, midwifery was placed in a very different position from what it had been at the commencement. The instruments employed in operations were greatly improved—the rules for operating more clearly laid down: but what was of equal importance, a better discrimination was exercised in those cases that required instrumental aid: the process of Nature in parturition was better understood, and the accoucheur was called upon not merely to operate, but to determine whether an operation was necessary, and if it might be avoided. His advice became valuable as an obstetric physician; the public began to repose in him more of their confidence, and his assistance was sought for more frequently in ordinary labours. Obstetric authors consequently increased, and we find Osborne, Perfect, Bland, Denman, John Clark, Rigby of Norwich, Joseph Clarke and Dease of Dublin, Hamilton of Edinburgh, all contributing their quota to the general stock of obstetric knowledge.

Looking back upon the course of this history, we perceive that midwifery at first was entirely the business of midwives, and considered to be unworthy the attention of medical men. The exertions of a few removed this prejudice; but it was still viewed purely as an art in which the ready application of instruments seemed to be the essential requisite. We then find the immortal Harvey and William Hunter raising it to the position of a medical science; the latter, especially, proving that it was something more than an art. He found the artists in the profession were too often intruders on the duties of Nature, and that sometimes her operations were not only interfered with, but frequently altogether deranged by their ignorant meddling. Hunter enforced in his lectures the necessity of viewing parturition as a natural process. He urged that our attention should be directed to favour, not to hasten her efforts. He objected strongly to the principle acted upon by the advocates of the quick and secret mode of delivery. His views, supported by the clearest demonstrative evidence, soon began to effect an important change in the practice of midwifery; and although it is true that he sometimes carried his caution too far, as, for instance, leaving the placenta for days in the uterus that it might be expelled naturally—objecting to artificial delivery when the uterus was ruptured, still he effected a most essential improvement in checking uncalled-for interference, and in placing the study of obstetric medicine on its true basis in proving it to be the study of Nature.

Thus we find midwifery in its early origin wending its way through a barren and uninteresting tract, clouded in mists of the darkest ignorance: then we observe it slowly emerging from obscurity in proportion as it received light from those eminent men, the luminaries, as it were, in the cycle of obstetric history. In its further progress we perceive it gradually rising over the difficulties that opposed its advance; and now we can follow it as it expands into a clear and steady stream, and becomes an important tributary to medical science.

Time will not permit me to allude to more than two of the authors we have enumerated—to Rigby of Norwich, and to Denman.

Rigby,* the native of a town distinguished for its medical men—educated by Priestly, a pupil of Martineau, the companion of Cross—had given to midwifery the same spirit of inquiry that he had to other medical subjects, and with a similar successful result. In 1776, he published an Essay on Uterine Hæmorrhages, that at once commanded the attention of the profession. Rigby pointed out to them a marked distinction in the character of floodings at the time of delivery; and proved that the operation of Ambrose Parè (turning) was not necessary in all cases of severe hæmorrhages. He showed that in certain cases it might be dispensed with altogether, while in others it was unavoidable. He pointed out that the practice in this respect must be governed by the position of the placenta: that when it was attached to the mouth of the womb the child must be delivered by turning; if to any other part that operation was very seldom required. This fact had also been brought forward by Levret, in France, about the same time, and therefore Rigby's claim to the discovery of a new fact has been questioned and denied. I shall not here trespass on your time with this "vexata questio." I faithfully believe Rigby knew nothing whatever of Levret's experience, and I am satisfied that this view of the treatment of floodings was perfectly new to the British obstetrician: the best proof I can give you is that his Essay ran rapidly through five editions; and I can find in no other British author, previous to Rigby, any such classification of ante-partum hæmorrhages.

Denman was the author of a work which is now a standard in the obstetric catalogue.† He avoided the extremes of Smellie and of Hunter. Denman was less bold than the former in the application of instruments; less hesitating than the latter when interference was called for: holding, as it were, the balance between these eminent authorities, he laid down principles which, taken as a whole, may be considered as the safest guides to practice. I can very conscientiously recommend his work to your attention. It is the result of extensive experience, improved by a sound and unbiassed judgment; and if the study of an author can communicate any sympathetic influence—if his tone can be so conveyed—I have an additional reason for recommending to you Denman, because if you can acquire from the study of his work the same caution in avoiding precipitate intermeddling—if you are taught to exercise the same calm discrimination in the difficulties of practice—the same clearness in arriving at a correct conclusion—and you find your judgment improved by his observations, you will receive a rich reward.

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* An Essay on Uterine Hæmorrhage, &c.; with Cases. By Edward Rigby, M.D. 1776.

† Introduction to the Practice of Midwifery. By T. Denman, M.D.

Denman's success in practice, and the eminence to which he had attained, was the natural consequence of his great ability; and if I have mentioned his work to you as an object of study, so I might point to his career as an example to follow. I would ask you not alone to read his work, but to read his life—a short memoir, given with the most unaffected simplicity. I would ask you to observe him as he passed through the trials, the difficulties, the early struggles of his professional life. You will find a remarkable example of perseverance and self-control conquering a natural impetuosity of temper, in order to acquire that steadiness which he knew to be essential to success. You may mark his professional advancement—moving slowly, step by step, while the ultimate reward of his exertions seemed to be immeasurably removed. An untiring exertion among the poor formed the broad basis of Denman's professional character: a dauntless perseverance under difficulties, and a steady attention to the improvement of midwifery, enabled him to build up securely his future reputation; moderation in success aided in raising him to his highest expectations, until ultimately he reached that pinnacle on which the favour of the aristocracy crowned his diligent exertions. It is true, that if the student were to look at Denman standing on such an eminence, he might be discouraged; because, however he might be the object of his admiration, still he would scarcely hope to rise to the elevation upon which Denman's reputation so securely rests. But I would again say, read his life, and ask yourselves, Are not the means of success equally within your reach as they were within his? May not you, equally as Denman, hope to receive the reward of your industrious attention, and become eminent in your profession?

With Denman I shall close this brief summary of British midwifery: there are other distinguished names, of more recent date, to which I might solicit your attention if it were my design to continue this review into the 19th century. I could point out to you living examples of the truth of these observations, in which the same untiring exertions, and the same zeal in the cultivation and improvement of midwifery, are forming the "monumentum ære perennius;" but this is unnecessary, perhaps even in bad taste. The praises that we lavish on the dead must be checked when speaking of the living, lest it may be governed by prejudice, or degenerate into mere fulsome adulation. Your own penetration will in time select among the living the best examples to follow; and if I seek to review the biography of past centuries, it is because that such annals are generally forgotten in the business of the present time. They are not unlike those epitaphs which had been intended to remain as imperishable records of individual worth. It is often very difficult to collect the memoirs, and sometimes even to trace the names, of individuals once well known, if not eminent, when they are obscured by the mould that time generates, and neglect permits to accumulate about them.

Having placed before you this sketch of the rise and progress of midwifery, we should next proceed to consider its present condition; but to do this part of our subject justice, would, I fear, require another lecture; time will permit me to point only to a few prominent features that are worthy of attention.

You have observed the improvements that have gradually been introduced into the practice of midwifery, by which many lives have been saved that otherwise would have been sacrificed. You have perceived the effect on the public mind produced by these proofs of superior knowledge: midwifery has been taken from the midwife, and become the profession of the educated physician. The public do not now believe that because parturition is a natural process, it should be left entirely to nature, and that no further education is required than what is necessary to tie and divide the navel-string. They are aware that the safety of those, who are most dear to them, often depends entirely on the skill and judgment of the educated medical attendant; consequently they look for such. Neither are they blinded by the prudest arguments of ignorance, who, like Mrs. Nihell; and many since, would fain persuade them of the indelicacy of committing an ordinary delivery to the charge of the accoucheur. The days when these arguments possessed any value, have long since passed away; nevertheless, the same delicacy of feeling and refined sense of propriety still remains. There is no alteration here; but the reason that such pleadings are not now listened to is the conviction of the public that, education is just as much required in midwifery as in any other branch of medicine, and they know it is not to be found among midwives. These facts must greatly enhance the value of an obstetric education, and should be a strong inducement to lead you to give midwifery at least an equal share of attention as other medical sciences; but there is one fact beyond all others that should be impressed upon you minds as a stimulus to exertion. *Midwifery is the most treacherous pursuit an ignorant person ever adopted.* He or she may go on successfully in practice, (so long as nature does everything), for a longer or a shorter time, when suddenly a difficulty arises, for which they are quite unprepared—danger is imminent, and death may take place before the assistance of the educated practitioner can possibly be had, or, worse than all, presumptuous ignorance may assume the garb of education, and the pretender may attempt to perform an operation to which he is quite unequal, death is the result, and the coroner's inquest exposes such proofs of gross incompetency as are only equalled by the unparalleled audacity with which he first ventured upon the operation—an office which he must have been perfectly conscious that he could not fulfil. Be not deceived, therefore, by the apparent facility of midwifery practice; do not look upon it with *ennui*, and say that "there is nothing in it." On the contrary, there is a great deal in it; much has been done in the art of midwifery, but much still remains to do in the science of obstetric medicine. You are now entering upon the study of midwifery with many advantages. Our aids to knowledge, both in the theory and practice, have greatly increased. Embryology has attained a great degree of perfection,—you should make it your study: and when the physiology of the ovum is understood, its pathology is easily learned. Intra-uterine pathology is a wide field, as yet but imperfectly cultivated. The whole function of parturition and the mechanism of delivery is better understood now than formerly: this subject you can still follow up—add your mite to the knowledge already collected—and perhaps assist in improving the principles of practice.

We have now also introduced to our notice, a new agent in the practice of midwifery, which, if its value be hereafter established, is calculated to produce as remarkable an effect upon it as Ambrose Parè's operation of turning, or Chamberlen's forceps. I allude to the introduction of agents calculated to diminish, if not to remove the pains of labour. Of these, the chief is *chloroform*, the most powerful anodyne yet discovered, of great value in lessening the sufferings of the parturient women, but an agent of such power that, like hydrocyanic acid, it has caused sudden death. In the hands, therefore, of an ignorant person, you can imagine the danger of chloroform, but with those who have studied its properties, (and there is much yet to learn) who understand the mode of its administration, and can safely employ it, you can perceive the advantage thus given them. This inquiry is still before you, and requires you to apply to it all the education you have already acquired both in physiology and chemistry. When you have ascertained the nature of the vapour, the tests of its purity, its effects on the nervous system, and on the blood, and the safest mode of administering it, there still remains to decide, whether it is proper to use anæsthesia in midwifery at all or not. In the examination of this question, do not be led away either by extravagant praises of chloroform on the one side, or by a senseless condemnation of it on the other; neither expect to perform miracles, nor fear to commit a homicide by its use: "in medio tutissimus ibis." Do not from preconceived prejudices decide at once in the negative, but arrive at the affirmative with caution. Look upon chloroform, if you please, as a poison, but examine it as you would hydrocyanic acid, or opium, or arsenic, or aconite, all of which are rank poisons, nevertheless, are used as medicines, and in educated hands, are most valuable remedies. All these, when first used, and even now when incautiously given, have caused death; such has happened with chloroform: but as, in the former instances, these fatalities did not explode them from practice, but only led to increased care in their administration, so now the few deaths that have occurred from chloroform among the thousands who have taken it, should only teach us prudence, lest the use of it may become an abuse, and thus lead to its prohibition. This new agent is now running the same course that the forceps did when first invented. That novel aid to delivery was far more frequently called upon than was at all necessary: hence a great deal of mischief was done with the forceps, until at length it was almost given up. So also those who never used the forceps, who, perhaps, never saw the instrument, made it the object of their bitterest attacks: vituperation, sarcasm, ridicule, were severally aimed against "the dangerous instrument:" nevertheless, the forceps escaped all this, and is now acknowledged to be a valuable aid in practice. Thus I think it is with chloroform. It was scarcely announced, when the journals were teeming with cases, in which it had been successfully used; presently a fatal accident occurs—then a second—and a third. The profession take alarm—become sceptical—and then condemn without much reflection. We have also our Dr. Maubreys and Mrs. Nihells, attacking in no measured terms the employment of chloroform; their very arguments proving that they have never used it, and consequently can know nothing but by hearsay about it. A question of fact can only be determined by an appeal to facts; and if this appeal be made with due caution, and by one who knows the properties of the agent he is using, the result, I feel conscious, will prove the value of chloroform. In determining, therefore, on the propriety of using anæsthesia in the practice of midwifery, decide it by facts, and not by *à priori* prejudices. There is only one argument of this kind that commands our attention, because it is specious, and, if it were true, would be the most powerful against it that could be employed. In this country, where the Bible is read and valued, a religious objection is a strong one; and in this instance, if valid, would be damnatory.

The sin of our first parent brought upon woman this condemnation. "In sorrow shalt thou bring forth children." It is said that by using means to lessen the pains of labour, we are removing the sorrows of child-birth—we are preventing the punishment to which woman is condemned—we are abrogating the Divine decree. Such an objection as this seems to me scarcely to require all the learned criticism on the interpretation of Scripture, that has been so ably advanced, to refute it. In the present generation, when the effects of sin are so manifest, it may truly be said that the pains of labour form a very small part of the sorrows of child-birth; but the foundation of such an objection is perfectly unstable. How could we—the very lowest class in the intellectual kingdom—the link between mind and matter—a mere zoophyte in the scale of intelligences?—how could we blot out a single particle of the ordinances, or interrupt the designs of the Master Mind, "whose ways are not as our ways, and whose thoughts are not as our thoughts?" The supposition that we could prevent the fulfilment of the Divine sentence, is to assume imperfection in the Divine attributes. The objection asserts an impossibility, and may be taken as a specimen, and perhaps the best specimen, of the class of *à priori* arguments. In place of losing time in these discussions, rather seek to know, whether chloroform, while it relieves the pain, may interrupt the process of parturition.—Has it any influence on the child's life? or on the mother's health subsequently? above all, whether it may be used without risk? because we have no right to expose the parturient woman to any risk for the mere object of saving her from the pains of labour. If you determine these questions in the experimental manner that I have pointed out; (and when I say "experimental," you will not understand me as wishing to encourage untaught and reckless experiments), I think you will find that chloroform, so far from interrupting parturition, renders it more easy—that the patient's recovery, especially from severe labour, is much more favourable—that when administered carefully, it may be given without the slightest risk—and that it does not poison the child. It is necessary, however, to bear in mind, that there are many patients who go through their labours cheerfully and well without the slightest unfavourable interruption: you would not give chloroform to these. There are also certain constitutions as intolerant of chloroform, as there are patients who cannot bear opium. This should teach you the importance of caution in your trials of it; and if you find any tendency to convulsions, or to coldness of the surface, or unusual pallor, to withhold its use altogether. These points, however, we shall consider in the course of these lectures.

In conclusion, let me urge upon you the importance of a sound obstetric education, and not to be deceived into the belief that it needs little attention: be assured that you might hereafter repent so fatal an error.

You have read, no doubt, with painful interest, the melancholy fate of the Ocean Monarch, a splendid ship, leaving the port of Liverpool in full sail, having all her canvas spread, the admiration of all observers. An accident occurs on board, the consequence of neglect—a spark becomes a flame—the flame a conflagration—and this noble vessel sinks a burning ruin at the very moment that she felt the most secure.

This awful catastrophe will supply an apt illustration of my meaning; and I would beg of you to recollect, that more than one member of our profession, sailing in the full tide of a successful practice, has, through the merest accident, foundered: that accident, too, rendered fatal from neglect—*the neglect of his obstetric education*—and I might truly add, attended in like manner with a frightful sacrifice of human life.

GENTLEMEN ADMITTED LICENTIATES OF THE ROYAL COLLEGE OF PHYSICIANS.

At a meeting of the Comitia Majora, on Saturday, September 30th, the following gentlemen were admitted Licentiates of the Royal College of Physicians:—William John Fitton, Upper Harley Street—Charles Bland Radcliffe, Queen Square, Bloomsbury—William Addison, Great Malvern—Alfred Swaine Taylor, F.R.S. Lecturer on Medical Jurisprudence, &c. in Guy's Hospital.

On the same day, William Slymon, of Newtown, Montgomeryshire, was admitted an Extra Licentiate of the said College.

CLINICAL LECTURE
ON THE
TREATMENT OF RHEUMATIC FEVER,

Delivered at King's College Hospital,

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(*Reported by* Mr. H. H. SALTER, Med. Schol. K.C.L.)

LECTURE V.

I WISH to-day, gentlemen, to direct your attention to the treatment of Rheumatic Fever, and the case by reference to which I shall particularly illustrate my observations, is that of Elizabeth Stocking, æt. 23, admitted on the 19th of April, and still in the hospital—a case in which the prominent characteristics of the disease are very well marked, and which, therefore, may be properly selected as a good example of the malady. Let me take this opportunity of recommending you to study with care, by taking full and daily notes of them, a few cases of this disease: it is a disease which, by and by, you will be frequently called upon to treat; we are seldom without several examples of the disease in the hospital; and, by taking careful notes of some eight or ten of these cases now, you will so impress upon your minds the history and symptoms of the disease, that you will be well prepared to treat them for yourselves, and each new case will be the more profitable to your practical knowledge. This is the more to be recommended, because rheumatic fever is a disease which exhibits remarkably little variety of symptoms or difference of phase: in one case the symptoms may be more severe than in another, but the same essentials which characterize the disease are present in all. Therefore, I say, study a few cases carefully, and you will get a good knowledge of this disease before you are called upon to treat it on your own responsibility.

The case of Elizabeth Stocking affords us, as I have said, a good opportunity of studying the characteristic symptoms of rheumatic fever. What, then, are these characteristic symptoms? They are—1st, A peculiar affection of the joints, involving more or less swelling and pain of them; this almost always commences in the lower joints, and then travels up to the higher: thus, first we find it in the ankles, and then in the knees, and then it attacks the upper extremities; the implication of the joints is almost always shewn by what may be considered its peculiar characteristic—*swelling*. Almost invariably there is an increase of the synovial secretion, sometimes to a very great extent, so as to prove a source of great annoyance to the patient. The synovial membranes in this condition are highly vascular; so much so, that I have sometimes seen them, in cases where I have had an opportunity of examining them, as red as the conjunctiva when in a state of violent inflammation. Another characteristic of the disease is, its tendency to shift its position. To-day it will be in the *right* knee, which will be swollen, hot, and tender; to-morrow all this will have disappeared, and you will have the same symptoms in the *left*. This erratic tendency—this disposition to wander from joint to joint—is a symptom which you should carefully keep in mind; where it exists in a very marked degree, it must be considered a bad feature, indicative of a low form of the disease and a low state of the vital powers; and it is to cases in which this symptom is prominent that depressing treatment is found to be particularly prejudicial,—often aggravating the disease generally, and this feature of it in particular. The erratic tendency is present not only in rheumatic fever, but likewise in the analogous disease of gout; and it was this that led the old writers to regard the internal inflammations which are apt to come on in the course of these diseases as "metastatic"—an idea which, however it may have some support in gout, is inadmissible in rheumatic fever. It by no means follows that an inflammation of an internal part should be a metastasis of an external inflammation, even should the latter diminish or cease on the appearance of the former; but a strong objection to the doctrine of metastasis is founded on the fact that we often find that they manifest themselves simultaneously, and sometimes that the internal inflammation comes first; and it rarely happens that the external inflammation becomes diminished or exacerbated by the increase or diminution of the internal, and *vice versâ*.

Another feature of this disease is the profuse sweating by which it is accompanied. This is not distinctly of a critical or sanitary nature, as we sometimes see it in other fevers; for the sweats do not produce any marked immediate good effect, either on the joints which are implicated in the disease, or in the general state of the patient. In this case the sweating was profuse: you doubtless recollect how it poured forth from the patient's head and chest, and, indeed, from the surface of her body universally; and from that you may judge how much must have escaped. I must say, however, that I do not regard these sweats as otherwise than salutary within certain limits; I think that, in the early days of the fever, they should be encouraged, as an important medium for the elimination of noxious matter from the system, and that you ought to be cautious how you stop such sweats, except where they are distinctly debilitating to the patient. Large quantities of free acid are carried off by these sweats. You remember that we applied litmus to the skin of this patient several times, and that it always was deeply reddened. In contrast with this extraordinary action of the skin, we remark generally, as it is with our patient, a deficiency in the quantity of the urine, and an abnormal condition of it; that fluid being loaded with lithates and purpurates, and even oxalates, and sometimes, as in a patient now in the hospital, containing blood. The kidney is in some degree irritated; less water passess off by it, but apparently a large amount of solid ingredients.

Another characteristic symptom, which always accompanies this disease more or less, is the furred condition of the tongue. The state of the tongue is the best index to the true condition of the patient; so long as it continues furred, you cannot say that you have succeeded in thoroughly eradicating the rheumatic state; and I would warn you not to be confident in the result of your treatment unless you see the tongue become quite clean; even although the pain in the joints and other external signs may have been subdued, yet, if the tongue remain furred, I should greatly fear that the patient may suffer a relapse, or that he may linger on in the rheumatic state for a considerable time.

Further, we had in this case signs of internal rheumatic inflammation, affecting the heart, indicated by a rubbing sound heard on the base of the heart,—leading to the conclusion that there had been an effusion of lymph on the opposed surfaces of the pericardium. This was evidently not metastatic, because it co-existed with an undiminished, or but slightly diminished, inflammation of the external parts. All these symptoms — namely, the articular swellings—the profuse sweats—the high-coloured and loaded urine — the furred tongue—the tendency to heart affection—are present in all cases of rheumatic fever; nor can we regard a case as of this nature in which these symptoms are not present. In too many the heart affection actually takes place; in all it is to be apprehended, and, if possible, guarded against.

There are, however, two points in this case which are peculiar, or, at least, which do not occur constantly in cases of rheumatic fever. First, you will remember that I have pointed out to you several times at our visits, on the skin of this patient, a copious eruption of what have been called *sudamina* or *miliary vesicles:* they were scattered all over the surface of the thorax, and if you passed your finger over the skin, you found it rough; these sudamina are seen, on close examination, to be minute vesicles filled with pellucid fluid. They are not specially characteristic of rheumatic fever, but they *are* characteristic of a sweating state. If a patient suffering under typhus fever, pneumonia, phthisis, &c., sweats profusely, these sudamina are apt to appear upon the skin in great numbers. The presence of these sudamina must not be regarded as indicative of any special form of disease, but merely as an accompaniment of a state of profuse perspiration. The second peculiarity in the case of this woman is, that the rheumatic fever followed quickly upon the puerperal state. The connection between rheumatic fever and deranged uterine secretions is very remarkable. Some of the most severe cases I have ever seen have followed dysmenorrhœa. It would seem as if in these cases the uterus were but imperfectly evacuated, and, its contents getting into the circulation, produced a morbid state of the blood, which gives rise to the symptoms which we see, and requires for its cure the elimination of the unhealthy material by the various emunctories.

Not unfrequently after the puerperal state the patient exhibits all the symptoms of ordinary rheumatic fever: the same profuse sweats, the swollen joints, the fever, and the lithic urine; but in some cases the disease runs a more formidable course, the joints, instead of getter better after a time, continue to get worse, till at last the cartilages ulcerate, pus is secreted in large quantities, and fills the synovial membranes to distension: the articular extremities of the bones are laid bare, and the rough osseous surfaces grate against each other when the limb is moved. I have seen all the large joints in this condition. At the same time deposits of pus form in the muscles, and in other parts. Some of the French writers describe this disease under the name of "*puerperal acute rheumatism.*" It is, in fact, a form of puerperal fever, due to inflammation of some of the uterine veins in which pus is formed, which, infecting the blood, excites articular and other inflammations in its passage through the circulation. Such cases throw light on the pathology of rheumatic fever, and show how a morbid matter, generated at one part of the circulation and carried through its round, may occasion serious disturbance in the local nutrition of the various parts through which it may be undergoing elimination, and give rise to a train of symptoms closely resembling and not to be distinguished (save by the history) from those of rheumatic fever.

In our patient, Stocking, there seems to have been some morbid state of the uterus prior to the developement of the rheumatic condition. Immediately after her confinement she seems to have had symptoms of peritonitis, which appeared to yield to treatment; but she had not long recovered from these symptoms when the rheumatic condition showed itself.

Having now described to you the prominent points of this case, I must proceed to that upon which I wish to dwell particularly, and which, indeed, is the main object of this lecture, namely, the *treatment of* rheumatic fever. Upon this subject there still exists a good deal of difference among practitioners; and as I have myself, after much inquiry, come to some decided conclusions as to the line of practice which should be pursued in these cases, and as they are confirmed to me by my daily experience, I am anxious to bring the whole subject before you, and explain fully to you the principles which regulate my practice in the treatment of this formidable malady.

Now, it is important that we should determine what are the particular objects we should keep in view in the treatment of a disease of an acute kind. They are these:—

1st. To relieve pain.

2dly. To strike at the root of the malady.

3dly. To cure our patient with as little trial to his constitution as possible, so that afterwards he may not be in a worse condition than he was before. We often hear in society such expressions as these—"I was always very well till Dr. So-and-so treated me for rheumatic fever, and he purged and bled me to such a degree, and treated me so violently, that my constitution could not stand it, and I have never been the man I was before." Now, let us endeavour to conquer this frightful malady, and let it be our boast that when we have done so we leave our patient a constitution unimpaired, at least by our remedies. In some cases it is not possible to effect this: the lungs may become affected, the pleura, or the pericardium, and so much organic mischief may be done in a short time as to leave important organs permanently damaged; still, notwithstanding these lesions, the general nutritive powers need not be materially injured.

4thly. A good plan of treatment should aim at securing for the patient a short convalescence; I do not speak of a speedy cure, because that is, to a certain extent, implied in a short convalescence. At the same time, I must caution you against the so-called rapid cures said to be effected by the heroic methods of treating rheumatic fever. If these cures are rapid, they leave a tedious and painful convalescence; and, indeed, it may be more properly said in such cases that the treatment converts an acute into a chronic disease, rather than that it cures the former. Such a cure, if cure it can be called, is not what you should aim at securing for your patients; nor is that a *bonâ fide* cure of rheumatic fever unless the febrile and constitutional symptoms are subdued, the secretions re-established in their normal quality and quantity, and the joints relieved of their swelling and pain: if such a cure as this can be effected in a short time, not entailing a tedious convalescence, your patients will have good reason to be satisfied. Now I must tell you that I do not believe that a *bonâ fide* cure and a short convalescence are, in the generality of cases, really obtainable by the heroic modes of treatment; and I would add my conviction that it is not desirable to shorten very much the period of cure in this disease, as it is not likely that a sufficient elimination of morbid matters can be effected in a very short time. These so-called rapid cures are also apt to leave the patient very subject to relapse, which you should endeavour to guard against as much as against a tedious convalescence.

Before I enter on the description of the treatment of the disease, let me come to some understanding with you as to its nature; we cannot adopt a particular plan of treatment without having some theory of the nature of the disease. Now, what is the most reasonable view of the pathology of this disease? I have not time to enter fully into the discussion of this question with you, and I must therefore be content with simply recounting to you the articles of my own creed upon this subject.

Rheumatic fever, then, I would say, is a state of high febrile excitement, induced by the accumulation of a peculiar morbid product, or *materies morbi*, in the circulation; and the symptoms which accompany it are merely caused by certain local derangements and disturbances produced at those points whence its elimination from the system is taking place. This materies morbi is the result of a vitiated state either of primary or secondary assimilation, or of both, and the parts where it accumulates are just those parts which, while they are very vascular, and therefore contain a large quantity of the diseased material, present the least obstruction to its escape from the circulation. These are the delicate synovial membranes of the joints, and the almost identical structures of the serous membranes—the pericardium, endocardium, pleura, the air-cells of the lung itself, and even the peritoneum: parts where the bloodvessels are covered by but a film of membrane. These membranes, being largely supplied with rheumatic blood, pour forth into their cavities an enormous amount of their ordinary secretion, contaminated with the diseased material. Thus, the synovial membranes become distended with a morbid synovia, which, instead of being alkaline, as it is in health, has a reaction decidedly acid: and thus, likewise, the profuse sweats are due to the irritation established in the skin by the morbid product, and the abundant fluid thus got rid of has, like the synovia, a marked acid reaction: the functions of the kidneys are, doubtless, similarly affected, and you get an abundance of lithic acid in the urine. But this morbid matter may escape likewise through the serous membranes, as it does at the synovial, or at the lungs, or at the heart; and hence, at any of these places it may excite inflammation, and at all of them is it disposed to do so: and it is evident that the more its elimination is encouraged and favoured at the skin, at the kidneys, at the joints, and at the mucous membrane of the alimentary canal, the less likely are the other important parts to suffer—the less chance have you of pleurisy, pneumonia, pericarditis, &c.

Treatment.—I think the most instructive way in which we can discuss the treatment of this disease, will be for me to enumerate the various methods which have been proposed for this purpose, and to point out the reasons for rejecting some and for adopting others. As many as seven different plans may be specified, of which I shall place last that which I am in the habit of following here, and which I call *the treatment by elimination*.

The first plan is that by venesection. It was thought by many, and still, unfortunately, is thought by some, that when called to a case of rheumatic fever, they have only to open a vein, and, if they succeed in taking away a sufficient quantity of blood, which, in many instances, they think should be little short of two or three pints, that they may by this large and rapid abstraction of blood cut short the disease, and convert a malady which ordinarily lasts some weeks, into one of a few days' duration. Frequently not content with one large bleeding, they will pursue the practice, and bleed a second, a third, or a fourth time, at short intervals, and in large quantities.

The great advocate of this practice at the present day is Bouillaud, of Paris; now, if you look through the record of his cases as given in his book, you will see that his patients, although some of the more urgent symptoms are apparently very quickly overcome, yet linger on in the hospital for a considerable period, suffering much from chronic rheumatism, and exhibiting an extreme anæmia, from which they but slowly, if ever, recover. This plan of treatment has been advocated by some English physicians, and among others, by the celebrated Sydenham, who, however, in the latter part of his career, abandoned, or greatly moderated it, and, I am happy to say, the number of its supporters at present is very small. It is a practice from the adoption of which I would most earnestly dissuade you, as having the support neither of reason nor of experience, and as being fraught with the most dangerous consequences to your patients.

I could tell you of several cases in which a fatal result had been clearly produced by by the adoption of this method of treatment, which most probably would have recovered completely had they been let alone, or treated by a milder method. One case in particular made a deep impression upon me. The subject of the case was a young and strong man, of great promise in his profession; he was seized with rheumatic fever, and one of the knee-joints was severely affected. On a previous occasion, a similar attack seemed to yield readily to a very large bleeding, and the patient recovered. His medical attendant, naturally enough, determined on the second attack to adopt the same treatment, which had seemed so successful before, and accordingly bled him very largely, and applied leeches to the inflamed joint. The result was violent delirium; and death by exhaustion in the course of eight-and-forty hours.

I would go so far as to say, that even were we certain that venesection would produce the desired effect on the leading symptoms of the disease, we should yet hesitate ere we make use of a remedy which, in the *general* effect it may have, is most uncertain and most perilous; in one case you may relieve your patient; in another you may send him to a premature grave; or in the same individual, in a first attack, you may obtain complete relief by this method, and in a second attack you may kill him.

2. The second plan of treatment is that by moderate venesection and diaphoretics. This may be called an "expectant" treatment, but it is more than that as regards the venesection; while in other respects it sufficiently merits the name. The advocate of such a plan will say—"when I am called in to a case of rheumatic fever, I think it advisable to commence the treatment by abstracting about 10 or 12 oz. of blood, and then to give sudorifics and purgatives." Now, the objection which I entertain to this treatment is this, that the routine abstraction of blood is in all cases unnecessary, and in many injurious, and that the other part of the treatment can exercise little or no influence on the disease. The tendency of rheumatic fever is to impoverish the blood, especially as regards that highly important portion of it, its colouring matter. All that bleeding really effects is to relieve fever for a few hours (which, however, may quickly return), while it undoubtedly aids the blanching power of the rheumatic matter, and, as I have observed in several cases, it

increases much the tendency to a chronic rheumatic state, and consequently prolongs the convalescence. That bleeding in rheumatic fever is unnecessary, and that its omission diminishes rather than increases the tendency to certain internal inflammations, I am so convinced, that for several years I have not abstracted blood, in any way, in a single case of the disease. The treatment of rheumatic fever by the abstraction of blood, even in moderate quantity, but more especially in large quantity, appears to me to increase the danger of internal effusions into the pericardium and the pleura, and also into the synovial sacs of the joints. Under this treatment we meet with the most violent and troublesome cases of delirium, which, under other methods, either does not occur, or is developed in a form sufficiently easily controlled. I am very much disposed to believe that this treatment predisposes to pericarditis or endocarditis; and that, if these affections occur in a case in which venesection had been freely practised, they are much less tractable than when you have to deal with them in a patient who has not suffered from loss of blood.

3. A third plan is that by mercury. Some recommend that calomel and opium should be freely administered until salivation is produced. The great objection to this treatment is, that it is an attempt to cure one fever by setting up another, and, in some respects, a worse: even supposing the original disease succumbs, your patient comes out of his rheumatic fever with loose teeth, ulcerated gums, and all the painful and offensive concomitants of ptyalism. Now, I say that under such circumstances the remedy is nearly as bad as the disease; and, moreover, it does not in the least guard the patient against what may be termed the accidents of his malady—those severe internal inflammations—pericarditis, endocarditis, pneumonia, pleuritis, peritonitis. I have more than once seen pericardial inflammation supervene while the patient was in a state of salivation; and when we consider how differently various persons are affected by a mercurial course, and how much some suffer from it, even if given in small quantity, I hold that it is highly inexpedient to adopt this plan of treatment except in cases where some serious internal inflammations have already set in, which it is desirable to combat by the antiphlogistic powers of mercury.

4. Another plan of cure which has been proposed is by colchicum and by guaiacum. These drugs, but especially colchicum, have long been considered to possess a specific influence over rheumatic and gouty affections; and it has been laid down that the rheumatic condition will be subdued in just such proportion as you get your patient under the influence of the colchicum, somewhat in the same way as quinine exercises a specific influence on ague. Now I think it requires only two or three cases to a candid mind to prove the fallacy of this doctrine: I myself have frequently given this remedy the fairest trials, but I could never discover any effect from it sufficient to entitle it to the character of a specific. That it is capable of exerting a remarkable influence on gout I do not deny; but even this must be admitted with considerable limitation, and it is certainly far from exercising any similar or analogous influence in rheumatism, whether acute or chronic. The effect of guaiacum has also been supposed to be specific, and similar to that of colchicum; but I am equally indisposed to give it that character. Both these medicines, when given in large doses, purge, and if given in such doses I have no doubt they may do some good, on the principle of eliminating the morbid material, by the alimentary canal; but unless you give them in such doses as to produce colliquative purging, you do but little towards cutting short the disease; and if you do give them in these large doses, you produce a degree of prostration and debility which is sometimes more dangerous than the disease, and you leave your patient to linger through a tedious convalescence. Colchicum given in small doses produces no good effect in rheumatic fever according to my experience; on the contrary, I fear that in some cases it has a prejudicial influence on the nervous system, making it more irritable and susceptible of impressions, and rendering the patient more obnoxious to the various accidents that are liable to occur in the course of the disease.

5. *Treatment by opium.*—This plan of treatment has been lately revived by a very able physician, Dr. Corrigan, of Dublin. It has much to recommend it, and, on the whole, you will find it extremely serviceable in practice; but I do not recommend it alone: its great value consists in relieving suffering, and soothing the nervous system, while it promotes diaphoresis. The opium is given in large and frequently-repeated doses, care being taken not to produce too much narcotism; but upon this point in general, there is not much need for fear, as there seems to be in the generality of patients a remarkable tolerance of opium. Our patient, Elizabeth Stocking, to whose case I have already referred, was ordered on the 23rd a grain of opium to be given every three hours, in addition to half a grain of the muriate of morphia, which she had previously been taking at night: in 48 hours she thus took 16 grains of opium, exclusive of the morphia, yet her pupils were not at all contracted, nor was she in any degree narcotized. The effect upon her has been

most beneficial: her nervous excitement has been calmed down, and her pain materially relieved. It will not, however, do to employ this plan alone,—it should be conjoined with other treatment. I do not recommend it by itself.

6. A sixth plan of treatment proposed long ago by Dr. Haygarth, consists in giving bark in large doses, for which more recently the less bulky sulphate of quinine has been substituted. Now just imagine the state in which the pathology of a disease must be, when measures so completely at the opposite extremes of our therapeutical resources are advocated for it—as venesection to the amount of two or three pints on the one hand, and large doses of quinine on the other: some would even give as much as five or ten grains two or three times a day. Now I have tried both methods of treatment, and I approve of neither; but if I were tied down to one or other of them, I should not hesitate to choose that by bark. In cases where the sweating is colliquative, and the urine copious and pale, with abundant precipitates of *pale* lithates, I have seen great good done rapidly by the use of quinine; but I am not prepared to advise you to adopt this treatment from the beginning, because it tends to check the secretions, and it may favour the development of internal inflammations.

7. The seventh and last mode of treatment that I shall mention to you, is that which you have seen me adopt frequently in this hospital, namely, *the treatment by elimination*. I give it this name, in order that you may keep well in view its main object—to promote the elimination of morbid matter by the various emunctories, and also that you may bear in mind the view of the pathology of the disease upon which it is founded.

It is probable that the *materies morbi* in rheumatic fever is lactic acid. We know that the natural emunctory of this is the skin: many chemists maintain that it will also escape by the kidneys, and if it ever does so, perhaps this is more likely during rheumatic fever than at any other time; and again, since vitiated digestion is apt to produce it in undue quantity, and it, therefore, exists abundantly in the stomach, there is every reason to think a certain proportion of it may be carried off through the alimentary canal. The indications are, therefore, to promote the action of the skin, the kidneys, and the bowels; to use antacid remedies; and to give large quantities of fluid for the free dilution of the materies morbi, and in aid of the drainage by diaphoresis and diuresis.

The best way to promote the action of the skin is by opium, especially if you combine with it nitre and ipecacuanha. For this purpose I use a compound, which resembles the original Dover's powder, which contains nitrate of potass instead of sulphate of potass, as prescribed in the Pharmacopœia compound ipecacuan powder. Our usual prescription is one grain of opium, one grain of ipecacuanha, and five grains of nitre: this must be given every two, three, or four hours, according to the urgency of the symptoms and the need the patient has for opium. This drug quiets the nervous system, and procures sleep, and with the ipecacuan promotes sweating; while the nitre acts upon the kidneys, and the ipecacuan may exercise some influence on the liver. Next you must give purgatives to such an extent as to keep the bowels in a loose state, but not carrying the purgatives so far as to weaken your patient, or worry him by obliging him to be frequently moved in or from bed. You will find it advantageous to use an alkaline purgative; and there cannot be a better medicine for this purpose than our hospital nostrum—the white mixture containing magnesia and sulphate of magnesia. Sometimes you may give the potassio-tartrate of antimony with advantage, but as it is a depressing remedy, it is not always advisable to use it.

But, while we are thus alkalizing our patient, and giving internally sudorifics and diaphoretics, is it advisable to attend to the state of the joints? The diligent physician will tell you by all means to attack them at once:—but there is such a thing as "nimium diligentiæ" in physic as well as in any other matters. Many will say, the best thing you can do is to leech a painful and swollen joint. I formerly tried it extensively, but for some time past I have not done so, as I generally found it either a useless or an injurious practice. You may apply leeches, and in a short time after you will find the pain and swelling removed, and you may be disposed to say to yourself, "here is a proof of their efficacy;" but wait twenty-four hours, and then you will generally find the pain and swelling as bad as ever, and the joint in just the same condition as before. Now apply leeches, and you will probably fail to give any relief. You have by the first application relieved the pain for a time, but you have produced no permanent good,—you have rendered the disease more erratic, and less amenable to subsequent treatment. Frequently when you leech a joint, the pain and swelling subside, but its fellow becomes swollen: leech it, and the swelling and pain return to the original joint. Nothing is more important to avoid, nor more troublesome if not prevented, than the erratic tendency of the rheumatic state. It will fly from joint to joint, and in pursuing it with leeches you only drive it out of one joint into another. I am satisfied that leeching the joints favours this erratic tendency.

I am not prepared, however, to advise you to neglect the local treatment of the joints. When they are much swollen and painful, you may give great ease to your patient by enveloping them in a large quantity of the soft carded cotton—what is commonly called *cotton-wool*. Over this you must wrap a sheet of oiled silk, so as to cover in the wool completely, taking care to have no part of it exposed. By this air-tight covering, you keep the joints in a complete vapour-bath; and when you come to remove the oiled silk and wool after twelve or twenty-four hours, you find the wool completely saturated with moisture, which generally is strongly acid. You have seen this in Elizabeth Stocking's case: we find the plan so generally useful, that it is adopted in the hospital in nearly every case. It affords great relief, supports and keeps the limb steady, and at the same time promotes sweating. I may just mention, that this plan of enveloping the joint in wool and oiled silk is often very beneficial in gout.

In a few, and only a very few, cases, I have found the pain aggravated by the heat which this mode of wrapping generates; and in cases where it is desirable to keep down the sweating, it is not advantageous to carry this plan beyond a day or two.

You perceive that all the means employed in this mode of treatment tend to elimination, and to the relief of pain — the opiate sudorific — the nitre acting on the kidneys—the purgatives on the mucous membrane of the bowels—the wool on the joints.

During this treatment, while you allow your patient the liberal use of simple diluents, you must give a fair amount of nourishment from the first; and I think this may be best supplied by a small quantity of good beef-tea, given frequently throughout the day.

I have many more remarks to make on other points in the treatment of rheumatic fever; but must content myself now with having given you an outline of the eliminatory mode of treatment, and reserve my further observations for another lecture.

IODIDE OF POTASSIUM A CURE FOR NURSES' SORE MOUTH.

DR. H. D. HOLT states (*New York Journ. of Med.*, May 1848), that every case he has treated of this disease "has yielded within forty-eight hours to the use of iodide of potassium in gr. v. doses three times a day." —*American Journal of Med. Sciences*, July 1848.

Original Communications.

A PROCEDURE
FOR THE
MORE SECURE DETECTION OF ARSENIC IN MINUTE QUANTITY.

BY T. F. GEOGHEGAN, M.D.
Prof. Forens. Med. Royal College of Surgeons in Ireland.

THE practitioner when called upon in his capacity of medical witness to pronounce on the presence of poison, when the quantity capable of elimination is extremely minute, often experiences considerable difficulty in giving an opinion sufficiently definite for judicial purposes.

The embarrassment alluded to does not arise from the organic contaminations of the matter examined, nor from the effects of putrefaction upon it. The former may no doubt completely mask the presence of vegetable poisons, while the latter may render nugatory a search for the mineral acids, or, in conjunction with the first-named influence, may so far modify some of the metallic poisons as practically to place them, in our reports, in an equivocal position, considered as deadly agents. The inconvenience which the present communication proposes to remove in a particular case, results from the impossibility of subdividing a very minute quantity of a poisonous substance, so as to apportion it amongst such a number of reagents as shall suffice for its *unequivocal* detection, without obscuring the indications of some, or multiplying those of others. It is presumed that most practitioners have encountered this difficulty in the case of arsenic—a substance which so frequently gives rise to grave and intricate medico-legal inquiries. The number of reagents which may be requisite to furnish this conjoint evidence for the valid discrimination of poison, can only be indicated by reference to individual substances, and by a careful consideration of the chemical habitudes of each. Even in special cases much difference of opinion and practice prevails. Thus, in relation to arsenic, it has been the custom to attach, as I conceive, too exclusive importance to reduction and oxidation, in comparative neglect of other indications, which, when properly associated, are equally, if not more, distinctive, and which I propose to show may, in almost all cases, be conjoined with the former. The method of reduction devised by Reinsch, has, in the case of complex mixtures, from its facility and delicacy, superseded all others, with the exception of that of Marsh. The deposition, therefore, of metallic arsenic upon copper, may be taken as the starting-point in our inquiry.

I deem it not unimportant to notice that I have sometimes encountered deposits on copper closely simulating in appearance that produced by arsenic, although not a particle of arsenious acid could be obtained by sublimation, nor any evidence of the presence of other metallic poison. On the other hand, the usual tin-grey metallic appearance of arsenic (when decisively precipitated upon copper) is often replaced by a black-coating quite destitute of metallic lustre.

With reference to the sublimate, afterwards obtained by heating the copper foil, I have to observe, that when its amount is very minute, although its apparently crystalline character can generally be recognised by a lens, or even by the naked eye, the precise figure of the crystal cannot be discerned with sufficient precision without the aid of a microscope of ordinary power. The octohedra are then observed with admirable definition, either perfect, or more frequently variously truncated on their terminal and base angles, and intermixed with a few tetrahedra.

Crusts, seemingly crystalline to the lens, are occasionally obtained from well-dried foil, apparently covered with arsenic, which on being submitted to the microscope prove to be either globules of fluid, or crystals not having the figure of arsenious acid, and devoid also of its chemical properties. The composition of the latter I have not as yet succeeded in determining. The globules of fluid are probably either water derived from a thin film of organic matter, which adheres, despite of washing and drying, to the copper (especially in operating on fluids previously submitted to the process of carbonization by sulphuric acid), or hydrochloric acid, resulting from the partial decomposition of the subchloride of copper, which also attaches to the foil, and of which a portion sublimes as an amorphous crust, deposited in the tube beneath the true arsenical one.

I am satisfied from the foregoing considerations, that any who shall feel disposed to accept as evidence of arsenic a well-marked coating of the copper, together with the production of a brilliant, crystalline-looking sublimate, fall into a dangerous error. If, however, the crystalline *figures* above stated be observed with the microscope, they are so peculiar, constant, and well-defined, as of themselves to furnish, under the circumstances of their production, a strong presumption of the presence of arsenious acid. It is true that the latter compound is dimorphous; I believe, notwithstanding, that it is never obtained as a sublimate in medico-legal researches, in any but the octohedral form. Thus I have found that a solution of arsenite of ammonia yields, by spontaneous evaporation, silvery crystalline scales of arsenious acid, apparently similar to those described by Wöhler as referable to the rhombic system. On heating these they sublime in the ordinary form.*

Few, however, who are conversant with the grave responsibilities of public medicine, will be content with obtaining the amount of evidence already considered: and hence the chemical properties of a solution of the sublimate are generally sought to be scrutinized; but in many cases, from its very trivial amount, with but indifferent success. Minute quantities, doubtless, when dissolved, will furnish an indication by the use of a single test, as the ammonio-nitrate of silver, or sulphuretted hydrogen. It would be, however, much more satisfactory to obtain, if possible, the conjoint evidence of *all* the fluid tests. The necessity for a method fulfilling the above indication having frequently forced itself upon me in practice, I have been led to propose the following procedure, by which a given quantity of arsenious acid may be transferred undiminished to each of the fluid tests in succession. As minute precautions in manipulation vitally affect the result, it may be premised, that want of success in the application of the fluid-tests to small sublimates, sometimes arises from not reducing the latter to powder before attempting their solution. The sublimate being carefully detached by a glass rod, aided by a fine stream of distilled water, should be received in a small porcelain mortar, and carefully triturated. The solution having been effected by boiling, should (1) be precipitated when cool, by ammonio-nitrate of silver. The yellow arsenite obtained is to be next decomposed by a slight excess of pure hydrochloric acid, and the filtered solution treated (2) by a current of sulphuretted hydrogen. Having ascertained the solubility of the resulting sulphuret in ammonia, it should now be dissolved in nitro-muratic acid, and evaporated to dryness (avoiding excess of heat at the close), redissolved and precipitated (3) by nitrate (or ammonio-nitrate) of silver, which yields the brick-red arseniate (4). Finally, the latter being decomposed by hydrochloric acid, in minimum quantity, the filtrate should be heated with a few drops of an aqueous solution of sulphurous acid, the excess of the latter expelled, and hydrated oxide of copper, with ammonia, in minute quantity, added. We can thus elicit the reactions of the *four* fluid tests from a quantity of arsenious acid which would prove refractory by the common method of subdivision, and are hence enabled to ensure a satisfactory issue in difficult cases. The final step of the operation is not always successful, the ammonio sulphate of copper being, even in experiments in larger quantities, a much less delicate test than those previously named. Having obtained, however, the antecedent results, the evidence of the presence of arsenic may be deemed complete. Modifications of the foregoing method will at once suggest themselves, and may be adopted at pleasure. It may occur to the instructed reader, that the success of the copper test might be secured by reprecipitation and sublimation of the arsenic subsequent to the formation of arseniate of silver; as, however, there is reason to believe that no inconsiderable portion of the metal is often retained by the copper foil as an arseniuret, this procedure cannot be recommended. Such retention indeed constitutes a reason for assigning to the method of Marsh a superior delicacy, although, in a practical point of view, that of Reinsch is equal to all the emergencies of medico-legal experience.

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* It is known that arsenite of ammonia cannot be obtained by evaporating its solution in the ordinary way; and I have ascertained, by experiment, that the above crystals, from *spontaneous* evaporation, are destitute of ammonia, and have a *faint* acid reaction like that of opaque arsenic. The transparent acid will be found (as stated by Bussy) at *once* to redden litmus.

ON THE

SPECIFIC GRAVITY OF THE URINE.

BY W. B. KESTEVEN, M.R.C.S.

THAT the specific gravity of the urine serves to indicate the quantity of solid matters eliminated by the kidnesy, and that deviations from the average standard of the specific gravity of urine in health indicate corresponding deviations from the normal amount of waste of the tissues voided by the renal excretion, are propositions to which even those who have given but a slight degree of attention to the physiology and pathology of the urine will yield their assent. It follows, then, that the attainment of an exact average figure, whereby to express the specific gravity of healthy urine, is most desirable; else we cannot, from this property of the urine, derive that assistance in the elucidation or detection of disease which otherwise it is capable of affording.

It appears to the writer that authors generally, though somewhat indefinite in their statements of this average, incline towards too high a figure; that the specific gravity of urine in disease has been assumed as the standard of that excretion in health.* Obviously, the determination of this point is of primary importance; since there is no other method so readily available, or so sure, whereby to estimate the quantity of solid urine daily evacuated, the only other mode, that of evaporation, being inconvenient, and in the end found to be less correct.

It may seem presumption in an obscure individual to suppose that he has arrived at certainty, where such authorities as Prout, Bright, Müller, Bird, Rees, Day, &c. &c. are not found to be agreed; but such men as these will be the last to judge presumptuous any effort having for its single aim the extension of our knowledge of disease, or its means of alleviation.

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* The Lectures lately delivered before the College of Physicians, by Dr. Golding Bird, establish the necessity of an accurate average sp. gr. for urine (*vide* LONDON MEDICAL GAZETTE, new series, Nos. 160 to 172).

The need of a closer approximation to a correct average will be at once apparent when we find that some authors give from 1·005 to 1·030,* while others give from 1·016 to 1·020. Different averages are given by Prout†, Simon‡, Müller, Bird§, Becquerel, and doubtless by others.

The writer has for some time past been making a series of observations directed to the attainment, if possible, of a more definite average. The result he has arrived at is, that about 1·016, or from 1·015 to 1·018, will be found a correct representative of the specific gravity of healthy urine. He may observe, that these figures do not differ much from those given by Bird and Becquerel.

That the average which is most frequently assumed is too high, and approximates nearer to disease than health, is evidenced by the recorded observations of the specific gravity of urine in inflammatory and febrile acute diseases, where the solid matters excreted in the urine are usually greatly increased: thus we shall find it vary in these cases from 1·020 to 1·035.‖ Also, in certain derangements of the digestive organs attended with copious depositions of uric acid, urates, ammoniacal salts, oxalates, and phosphates, it ranges from 1·020 to 1·030. That the specific gravity of urine in disease seldom exceeds these figures, experience fully confirms.

It is only necessary to allude to the various circumstances of diet, temperature, &c. &c., which influence the specific gravity of urine, in order to state that it is indispensable that they be carefully estimated in our calculations; and, further to enforce those cautious modes of procedure, in ascertaining the specific gravity of urine in disease, which are so fully and ably expounded in the lectures before alluded to.

The writer may be perhaps permitted to point out one or two conditions of the urine in disease having a special and direct relation to the matter in hand, and which will illustrate that need of a correct standard which he is anxious to enforce. A constantly low specific gravity, with a constant smallness of quantity, inevitably indicates serious deviation from health. Unless, then, we have arrived at a correct, average, how can we ascertain or affirm the existence of such a combination of conditions, yet so all important to be known if it exists, and as soon as it exists? If our average for health be taken at too high a number, shall we not incur the risk of assuming a danger not present? On the other hand, by admitting too low an average, may we not overlook disease until it has outstripped us in its course?

The morning urine of health has a higher specific gravity than that of the evening; in disease the reverse holds. The importance then of not forming an opinion from the specific gravity of a single specimen, is obvious; and, at the same time, it is equally apparent that herein is a valuable aid to the detection of obscure disease.

The real quantity of refuse tissue daily and hourly passing off by the renal excretion is, if our observations be correct, sure to be quite erroneously estimated by the higher average of *e. g.* 1·025; for assuming, as we do, 1·016 as correct, the loss by oversight will be from nine to ten grains solid matter for every ounce of fluid urine. The consequences resulting from such miscalculations will more especially make themselves apparent when we reflect on the operation of those diuretics which act chemically on the refuse tissues, and act as "renal alteratives,"* contrasting them with the other class, which merely dilute the secretion.

The writer has, in the preceding remarks, made it his endeavour to shew the true average specific gravity of urine, and the value of this as an indication of disease and its treatment. If he should seem merely to have gone over a part of the extensive field of urinary pathology in the footsteps of one who has so plentifully scattered around him the fruits of its scientific cultivation, he would remark that the observations which he now submits are addressed to *one point* only of that rich district; and that, written before the perusal of Dr. Bird's lectures, they have been corrected and modified thereby. In conclusion, he will rest fully satisfied if they shall be the means of directing attention in any degree to those lectures, so replete with scientific and practical knowledge.

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* Müller; Baly's translation.

† Prout; Urinary Diseases.

‡ Simon's Animal Chemistry; translated by Day.

§ Dr. Golding Bird, Urinary Deposits.

‖ Simon, Day's translation; Dr. Bird, Urinary Deposits.

* Lectures by Dr. Bird.

1, Manor Road, Upper Holloway,
Sept. 18, 1848.

ON THE

NARCOTIC POISONS, PARTICULARLY OPIUM, AND THEIR ANTIDOTES.

By Francis Sibson.

It is my object in this, and the following papers on the same subject, to develope the results of an inquiry into the therapeutics of poisoning by narcotics, and more particularly by opium. That the most proper means of treating such cases are as yet either not agreed upon, or not generally known, is evidenced by the great variety of practice, and the frequent want of success in their treatment.* The importance of the inquiry is shewn by the very great number of persons that annually fall victims to poisoning by narcotics, especially by opium.

In the years 1837-1838 the deaths by poisoning amounted to . . .		543
Of these, the total number poisoned by opium, laudanum, morphia, and opiate cordials, were		198
A number greater than that by arsenic		185
Poisoned by other narcotics . .		44
viz., by Prussic acid		27
Oil of bitter almonds		4
Nux vomica		3
Strychnia		2
Belladonna		2
Carburetted hydrogen . . .		2
Hemlock, monkshood, wolfsbane, and gin, of each .	1	4

These returns (Medical Gazette, xxv. 284, and Taylor on Poisons, 186) show that the largest proportion of cases of poisoning in this country are by opium, exceeding even those by arsenic.

There can be no doubt, as Mr. Taylor remarks, that the number of deaths from poisons which annually occur in England and Wales are much greater than this table represents.

I may add, that this remark, applicable to all of kinds poisoning, is especially applicable to poisoning by opium, that drug being used so extensively by the ignorant, and acting so silently, and with so many of the appearances of natural death. The extent to which this is so, may be surmised from the fact, that of the 198 cases poisoned by opium, 106 were either from overdose or by mistake; 64 of the remainder being suicidal, and in 3 only was it "wilfully administered." So long as this is the only country in Europe where the sale of poisons is indiscriminate, we must expect that the number of persons poisoned by opium will be immeasurably greater in this country than in any other.

Since opium is the preponderating cause of death from narcotic poisoning in this country, I shall devote the chief portion of these papers to an inquiry into the action of opium as a poison, with the view of ascertaining the best means of averting its poisonous and fatal effects.

On the local action of opium.

Before endeavouring to ascertain the action of opium on the complicated human organism, I shall inquire into the evidences of its local action on separate portions of the animal organism.

During the last century, especially towards the latter part of it, many of the great physiologists of that day busied themselves with this very question, of the local action of opium and other agents. Amongst these were Whytt, Monro, Fontana, Alston, Valli, and Humboldt.

The numerous experiments and observations of Humboldt (Annals of Medicine, iv. 223-271) convinced him that opium, like other stimuli, exhausts only in consequence of excessive excitation. He exposed muscle shortly after its removal from the living frog to oxymuriatic acid: the effect was first to stimulate, and then to exhaust muscular contractility. This exhaustion may be removed, he found, by opium, which re-excites and then again exhausts contractility.

"This exhaustion may be removed, (he found) by oxymuriatic acid or oxide of arsenic, while opium also is capable of removing the inexcitability produced by them" p. 272. I ought to state that these are the words employed in the copious abstract of Humboldt's work in the Annals—the previous details being inferred, rather than actually extracted, from the statements in that abstract.

From the observations, then, of Humboldt, and of Michaelis quoted by him, we may infer that the action of opium on the direct application of it either to nervous or muscular tissue, is first to augment, and then to exhaust their excitability.

These inferences are corroborated by the more recent experiments of Dr. Wilson Philip (on the Vital Functions, 133), who observed, that when opium or tobacco are applied in very small quantity to a muscle, they tend to excite muscular action; in larger quantity they immediately destroy the muscular power. They produce these effects in the hollow muscles, as the heart and the intestines, chiefly when applied to their internal surfaces. They produce the same effect when applied locally to either the nervous or the sanguiferous systems.

In all these cases the stimulant effect of the opium is more considerable than that of the tobacco, and the sedative effect of the latter is more considerable than that of the former.

These observations of Dr. Wilson Philip differ in this respect from those of Humboldt, that while the latter noticed that opium first stimulates, and then exhausts excitability, the former noticed that the application of a small quantity of the poison immediately excites, whilst that of a large quantity immediately exhausts excitability. He does not state that the opium first excites and then exhausts.

Humboldt's and Wilson Philip's experiments taken together, illustrate the whole question, first in the application of a small quantity or dose—that is, in a therapeutical point of view—a small dose of opium being a true stimulant, as Sydenham said, almost the only true stimulant; while the application of a large quantity or dose exhibits the poisonous action.

Humboldt's experiments shew that these two opposite actions are not really opposed to, but are dependent upon, and consecutive to, each other; and that, when the application of a large quantity of opium appeared to be immediately followed by exhaustion, that exhaustion was in reality preceded by the excitation, just as lightning in destroying vital contractility, primarily and violently excites it.

Valli (on Animal Electricity, 73) was much puzzled on finding that when he applied opium to the isolated tibial nerve of a frog, the excitability of the muscles of the leg was in some experiments destroyed, and in others increased. These experiments are explained by those of Humboldt and Wilson Philip. The cases in which excitability was increased were evidently in the earlier stages, and those in which it was destroyed in the latter stages of the action of opium.

The great experimenters before alluded to, afford ample and interesting illustration of the local effect of opium in destroying excitability.

Whytt immersed the heart, still pulsating, of a frog in water, and another pulsating heart in a watery solution of opium. The heart in the watery solution ceased to pulsate before the heart in water.

In ten minutes both hearts were taken out: they were then motionless. That which had been in the watery solution of opium could not be stimulated to contract, and it never moved again; that which had been in water could be stimulated to contract—and in a few minutes it of itself resumed its pulsation. (Physical Essays, vol. ii).

Monro poured ten drops of a watery solution of opium underneath the skin among the muscles of the left thigh. After ten minutes that leg seemed to be weaker, and in ten minutes more the muscles lost their power, and the toes had little sensibility: the animal seemed now to be a great deal stupified, and its heart gave now onl y 25 strokes in a minute. An hour and a half after the beginning of the experiment, the toes seemed to have quite lost their sensibility, and the muscles their motion; but the animal jumped by the help of the other hind extremity. Two days thereafter this leg had recovered both its sense and motion, and the animal seemed quite well. (Physical Essays, xiv. 827.) Fontana says, (on Poisons, ii. 364) " I plunged half the body of a leech into a watery solution of opium, and found in a little time that this part had lost all motion, whilst the other half continued in action. I looked upon it as something very extraordinary, that one half of the creature should become dead, whilst the other half continued in the state of not having undergone any change or suffered any injury."

The interesting experiments detailed above, prove that almost every and any organ of the body may be affected by the local action of opium; and that the organ affected by it has its excitability first increased, and then exhausted.

If the poison be applied to the voluntary muscles, or to the heart or intestines, the muscular contractility is first excited, and then exhausted. If it be applied to the individual nerves, or to the whole limb, sensation and motion are first excited, and then paralysed.

There is now no occasion to bring forward proof that the narcotic poisons as well as all other soluble substances, when received into the stomach or into the rectum, and in some animals, and with some agents when applied to the skin, pass into the circulation.

As the opium enters the blood when it acts upon the system, it necessarily follows that the opium admitted into the circulation is carried with the blood to every organ and portion of the frame. Every part of the organism is subjected to the immediate and characteristic influence of the poison; and as Whytt says, opium destroys by rendering the several organs insensible to the stimuli destined by nature to excite them.

As the opium when admitted into the system is first diffused through and applied to the whole circulating apparatus, I shall first inquire into the effect of opium on the circulation in the capillaries, arteries, and veins.

The effect of opium on the circulation.

Dr. Allston, that he might observe the effect of opium on the circulation in frogs, performed the following beautiful experiments, which he thus details:—

"(α) In the physic garden at Holyrood House, I one evening put a strong big paddock into a pot of water, wherein a small quantity of opium was dissolved; it soon appeared to be uneasy, by making strong efforts to get out of it, but in a short time it flagged or grew dull, making very little motion, and next morning it was dead, and much swelled." This experiment proves that opium can enter the circulation through the integuments, and so destroy life. This had not hitherto, I believe, been demonstrated.

"(β) Assisted by Mr. Robert Fullerton, a curious gentleman, and very dexterous in microscopical observation, (in August, 1733,) I conveyed through a small glass tube, a few drops of a solution of opium in water into a frog's stomach, and putting the animal into a glass cylinder, adapted it so to a good microscope that we had a distinct view of a part of the membrane betwixt the toes of its hinder foot, where the circulation of the blood may easily be seen. My design was, since I found opium killed frogs, to observe if there was any visible change made by it in the blood itself, or in its motion; neither of us could, indeed, see any alteration in the blood as to its consistence, colour of the serum, magnitude, figure or colour of the red globules; but we very distinctly saw a surprising diminution of the blood's velocity, for it did not move half so swiftly as it uses to do in these creatures. We alternatively looked at it again and again, and in less than half an hour saw the velocity of the blood gradually increase, the uneasy frog recover its wonted vigour, and the blood its common celerity; upon which we took out the paddock, put it in a bason of clean water, and allowed it half an hour to refresh itself—then gave it another dose of opium—fixed it to the microscope with all expedition—and viewed it as before. The blood then moved yet slower than it did the first time, and, its velocity gradually decreasing, at length it stagnated, first in the smaller, then in the larger vessels, and in about a quarter of an hour the animal expired.

"One thing was very observable all along—viz. that notwithstanding the diminished velocity of the blood, there was no sensible diminution of the frequency of the pulse: yea, when there was no circulation or progressive motion of the blood in this part, the pulse was visible by an undulatory motion—that is, the blood returned as far back at every diastole of the heart as it was protruded by the preceding systole: this continued till the frog was quite dead, or at least appeared to be so. When we had lost all hope of its recovery, I opened it, and found nothing in its stomach but a clear mucus like a jelly, a little coloured with the opium of which it was full: everything else seemed perfectly natural. This experiment we frequently repeated, and it had always the same appearance and event. The recovery, however, of one of the frogs which for a considerable time seemed to be dead, is not to be omitted. My friend and I one evening killed as before, a couple of frogs with opium: one of them, which was the strongest, I laid half in water on a tile in the bottom of the water-pot, that if it recovered it might sit either wet or dry as it liked best; the other I left on the earth, dry, under a hedge. Next morning when I returned to the garden, I found the one under the hedge dead, as I left it; but the other in the water-pot was alive, and appeared to be in perfect health." (Medical Essays, v. 130.)

These two very interesting experiments, which for their real illustrative value, in elucidating the action of opium on the system, as well as for their historical interest, are well worth repeating here, I combined into one experiment, which I devised in the following manner. The experiment is easily performed :—

Experiment.—I attached a frog to Mr. Goadby's frog-holder, so that either web could be placed under the microscope. I plunged the left leg into a test-tube containing a watery solution of opium—the right leg into one containing water. The tubes were so arranged, that they could be withdrawn, and either web be placed under the microscope without disturbing the frog.

Before the immersion of the left leg into the solution of opium, the circulation was very rapid: the corpuscles in the arteries shot past so rapidly that they could scarcely be distinguished. Those in the veins and the large capillaries moved rapidly, while those in the small capillaries moved slowly.

After the left leg had been immersed in the solution of opium for ten minutes, the motion of the blood in the smaller capillaries of that leg was quickened, and the blood circulated through many capillaries previously devoid of corpuscles. The movement of the blood in the artery and vein was less rapid. The circulation in the right leg was not altered.

After a further immersion of ten minutes the circulation in the left leg was further modified, that in the right leg being not perceptibly changed.

After the left leg had been replaced for half an hour, the frog was again observed. Whenever the skin was touched, either on the *left* or *right* leg, the frog cried out in a peculiar manner, the creature being universally convulsed. The skin was touched repeatedly, and in rapid succession, with the effect of producing convulsions, which became less and less strong each time they were excited. At length the convulsions could be no longer excited by touching the left leg, and after a time they ceased also to be excitable in the right leg. After a little rest the convulsions could again be excited.

The left leg was swollen, being evidently more vascular than the right.

The capillaries in the left leg were now much enlarged, several corpuscles moving slowly, side by side, through capillaries that were previously empty. The blood moved much more slowly both in the arteries and the veins.

The circulation in the right leg was now very perceptibly modified, and, as nearly as it could be observed, to the same extent as that in the left leg was affected after being immersed in the solution of opium for ten minutes.

After a re-immersion for an hour and a half, quick feeble tetanic spasms of both limbs were excited by the slightest motion—by walking across the room, or touching the microscope, or by touching the skin of either leg. These convulsions ceased when the legs were touched alternately and in rapid succession: the left leg first lost its excitability, and then the right. The convulsive motions were the least in the left leg.

It was found during the last observation that the animal was quite unconscious, and had ceased to breathe.

The capillaries were now very much enlarged in the left leg, being greatly distended and almost blocked up with the accumulation of blood corpuscles, the motion of which was but just perceptible. The movement of the blood in the arteries and veins was exceedingly sluggish. The right leg was similarly affected, but the capillaries were not so much distended, and the circulation was not so slow, as they were in the left leg.

The circulation became progressively slower, and convulsions were no longer excitable. About four hours after the first immersion in opium the heart was exposed, pulsating slowly, emptying itself on each contraction, and receiving and sending out but little blood. After the heart was cut out, the movement of the blood in both webs continued, though it was very sluggish, and in the left leg was only observed in the large artery and vein.

In the next paper I shall remark on these experiments, and carry on a farther inquiry into this subject.

ADVANTAGES AND DISADVANTAGES OF FEVER HOSPITALS.

It is pretty clear that the risk of contagion has certain limits, varying at different times; and when these limits are passed, as constantly happens in Fever hospitals, the disease is liable to spread. Probably if the patients of a Fever hospital could be kept as widely separated as are the fever patients in a general hospital, the disease would be as little liable to spread amongst them; and, if the attendants had absolutely as few cases of fever to look after, they would enjoy an equal immunity from its contagion with those connected with a general hospital. Under ordinary circumstances, there would appear, therefore, to be no particular advantage in fever hospitals or wards arranged on such a scale as to prevent all chance of contagion, since it would be better to fill up the intervals which must be preserved between fever patients, if it is safe so to do, with patients suffering from other diseases, than to let them remain empty. But on a sudden outbreak of fever, especially in a seaport liable to a large influx of strangers, their utility with all their danger is very great. Fever may be stopped at once in a locality by transferring all the sick to the wards of a hospital; for, much as it may spread within the walls, it never passes them, as it does among the habitations of the poor; and the existence of an institution exclusively devoted to the reception of this class of cases, prevents the wards of a general hospital from being, on such an outbreak, converted spontaneously, by contagion, into fever wards.—*Ormerod's Clinical Observations on Fever.*

MEDICAL GAZETTE.

FRIDAY, OCTOBER 6, 1848.

One of the most remarkable facts connected with the Asiatic Cholera is, that, in its present progress throughout Europe, it should follow so nearly the course which it took in 1830-1. The researches of Dr. Lasègue have shown that this analogy not only exists in respect to the time at which the places are visited, but in respect to the duration of the disease at each place.* The cholera appeared at Tiflis on the 5th May, 1830; at Astrachan on the 21st June; and, ascending the Volga, it reached the Russian province of Kasan on the 17th of September in the same year. In 1847 the cholera made its appearance at Tiflis on the 1st June; at Astrachan on the 31st July; and reached Kasan on the 4th October. In 1830, as in 1847, it took five months to traverse the same district.

In 1830, taking the course of the Dnieper, it reached Stavropol on the 6th September; Novo Tscherkosk on the 10th; Taganrog on the 8th October, and Kiev on the 8th January, 1831. In 1847, the cholera broke out at Stavropol on the 16th July; at Novo Tscherkosk on the 30th; at Taganrog on the 15th August; and at Kiev on the 5th October. Although, as a general rule, those districts, towns, and cities which were visited in 1830, have been attacked by the disease on the present occasion, Dr. Lasègue has pointed out one very remarkable exception. In 1830-1, the disease spread through the provinces on the western frontiers of Russia; but in 1847, from some singular and unexplained cause, these provinces have escaped; and to this may be perhaps ascribed our immunity from the disease up to the present time.

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* *L'Union Médicale*, Sept. 1848.

The ravages of the disease were suspended in the winter of 1830, as well as in that of 1847. In both instances Moscow formed the extreme western limit of the pestilence; and in the spring of 1831, as well as in that of 1848, the disease resumed its course. It appeared in St. Petersburgh on the 25th June, 1831, and it broke out in this city, and spread through it with fearful rapidity, on the 16th June, 1848. It attacked Berlin on the 31st August, 1831, and on the 15th August, 1848. It is well known that the disease first appeared in England, at Sunderland, on the 26th October, 1831; and it will be a remarkable confirmation of the analogies hitherto observed in its progress on the Continent, if the rumour that it has now appeared in one of our seaports on the north-eastern coast should prove to be well founded.* If we are to be guided by this analogy, the cholera may not appear in the metropolis until the ensuing winter. The first cases were announced in London on the 13th February, 1832, and they occurred in the immediate vicinity of the docks. The disease appeared in Paris in the spring of 1832, and that city, therefore, may escape the visitation until the spring of 1849. From the singular analogies already established, it can hardly be expected that either England or France should escape the disease on the present occasion; and it is therefore satisfactory to know that every precaution which reason can suggest has been adopted by our Government, in order to mitigate what appears to be an inevitable calamity.

It is worthy of remark that in 1830-1, as in 1847-8, the cholera has manifested itself chiefly in the great lines of intercourse along frequented roads, and the banks of navigable rivers, attacking chiefly towns and cities where the population was most dense, producing the largest amount of mortality in its first onset, then slowly diminishing in severity, and finally disappearing to reappear in a neighbouring locality. According to Dr. Laségue, the greatest rapidity with which the cholera has spread over any locality has not exceeded a rate of from 250 to 300 miles a month. This comparatively slow progress, together with its advance in the face of prevailing winds, is very unlike the usual mode of diffusion of a purely epidemic disease.

It was confidently announced a year since, that the cholera, as it then prevailed on the Continent, had lost much of its severity, and was far less mortal than the disease of 1830-1. This statement, however, is contrary to fact. In comparing its fatality in the countries to which its ravages have been hitherto confined, the deaths are, even comparatively speaking, more numerous than on the former visitation. In the Russian empire alone, between the months of April and August 1848, no less than 505,328 persons were attacked with cholera, and of these 210,836 died—a mortality of more than *forty per cent.* The tables published by the Sanitary Board of St. Petersburgh, shew that in estimating the mortality produced by the disease, in fourteen of the principal cities of the empire, it appears, that in 1847, of 21,295 attacked, 11,361 died; and in 1830-1, of 15,559 attacked, 9,018 died. The proportion of those attacked to the total population, was about the same. Thus, in the Russian empire, the proportion of deaths to the attacks was—

In 1830-1	In 1847
1 to 1·7	1 to 1·8

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* See page 598.

and the proportion of those attacked to the total population was—

In 1830·1	In 1847
1 to 19·6 inhabitants	1 to 19·7 ditto.

Even in Berlin, where it was alleged that the cholera had appeared in a much milder form, in the present invasion, we find that from the 15th August to the 1st of September, the attacks were 377, and the deaths 235—or no less than 64 per cent! This great mortality may be ascribed to the severely epidemic form in which the disease has prevailed in that city.

Experience has added one fact of importance in a prophylactic view to our knowledge of this terrible pestilence. As a general rule, the Russian practitioners have observed, that the *suddenness of an attack* of cholera is apparent, and not real—it is in its severe form, the secondary and intractable stage of a disease which, at its commencement, is comparatively mild and tractable; and which, if taken in time, may be without difficulty arrested by simple remedies. Their experience has led them to the conclusion, that *diarrhœa* is a precursory symptom of an attack of Asiatic cholera; and that this diarrhœa may or may not be attended with pain in the abdomen. There is very frequently an entire absence of pain—a circumstance which leads to the neglect of means for remedying what appears to be a temporary disorder, but which may turn out to be the forerunner of the fatal malady. In the diarrhœa preceding cholera, when pain has been noticed, it has been simple uneasiness, with a sense of contraction in the bowels. The number of evacuations may be from one to six or more daily: they retain in this stage their fæcal colour and odour, and are in this respect very different from those alvine discharges, which occur in the more advanced stage of the disorder; for these have no fæcal odour or colour, and resemble rice-water. This simple diarrhœa may, therefore, be considered to be the commencement of an attack of Asiatic cholera, this name being applied only to the last stage of the disease.

The *diarrhœal* stage may last only a few hours,—two or three days, or even longer. If properly treated, the second stage may be entirely averted—if neglected, this will commence suddenly and violently with those severe symptoms which are commonly the precursors of death. The suddenness of an attack of cholera is, therefore, only apparent,—when inquiry has been made, the milder stage, although in some instances of very short duration, had really existed, but was overlooked. These views of the Russian physicians are strongly confirmed by the observations made by Dr. Monneret, the French Medical Commissioner at Constantinople and Trebizond. We cannot now enter into the question, whether cholera does or does not in some instances destroy life without a diarrhœal stage. This is quite foreign to our object, which is that of endeavouring to find out some warning symptom of the disease, so that the person attacked may be placed on his guard, and induced to seek medical advice without loss of time. Let us admit, for the sake of argument, that from 100 cases diarrhœa may not appear in 14: our remarks are directed to the 86 who suffer from this very common premonitory symptom.

It follows, from the preceding observations, that *when cholera is prevalent in a locality*, the slightest disturbance of the bowels requires attention. Considering the possible risk incurred by neglect, the fact that there is only one evacuation more than common, or that the evacuation is more liquid than natural, should receive immediate notice. If the diarrhœa really depend on other causes, and not on cholera, no mischief will follow from its arrest by medicine;—if, however, it depend on the cholera-poison beginning already to operate on the body—then, by resorting to treatment, a life may be saved. It must be remembered that we have no means of determining *à priori* on what the diarrhœa depends; and, contrary to popular belief, it appears that the diarrhœa of cholera is really of a more mild description than that which arises from any local cause of irritation in the bowels.

It is satisfactory to know that the instructions issued by our Government are based on these views; and there is no one, however destitute, who may not procure the means of averting from himself the attack of a dire pestilence. If any reasoning be required to compel persons to adopt these measures of common prudence, it will surely be enough to say, that when the cholera has reached its second stage art is powerless before it. All kinds of treatment have failed to diminish the number of deaths; and the recoveries in this stage are probably more to be ascribed to the innate energies of the constitution —to the *vis vitæ* in combating the poison —than to any of the supposed remedial measures adopted. In the treatment of the premonitory diarrhœa, aromatics, astringents, and opiates combined, have been found the most efficacious. The compound Chalk powder with opium will probably be the most useful and popular remedy. We think, however, that opiate medicines of whatever kind should not be prescribed except by medical men. Age and other circumstances require especial consideration in regulating the dose of any medicine containing opium. Besides this treatment, the individual should avoid in his diet all vegetables and liquids which have a tendency to produce irritation of the bowels: he should be warmly clad, and should not be allowed to expose himself to wet or damp.

On the whole, there can be no doubt that we are better prepared to encounter this malady at the present time than in 1830-1; and as we were then spared more than other nations, we may hope that, should the disease appear among us, it will not turn out to be so formidable in its reality, as the anticipations of the public have led them to expect. It is highly improbable that it will destroy more lives than the influenza of last winter, although this disease spread in its destructive course without exciting the notice or the fears of the public.

The deaths registered during the last week (Sept. 30) are greatly above the weekly average; but this is only an apparent excess. The Registrar-General informs us in a note, that an unusually large number of inquests, the accumulation of former weeks, have been included in this number. Scarlet fever is still very prevalent and fatal, the deaths having been 154 to a weekly average of 37. On the other hand, it is highly satisfactory to find that the deaths from diarrhœa and cholera are much below the average of the season. There were 44 fatal cases of *Diarrhœa*, including 28 among infants, to a weekly summer average of 66; and of *Cholera*, there were only 4 cases, including 2 among infants, to a weekly summer average of 7.

OBITUARY.

On Wednesday, the 27th ult., at Chichester, Mr. Edward Miller, surgeon, late of Shanklin, Isle of Wight, in the 28th year of his age.

On the 16th ult., at Beckenham, Mr. William Merrick, surgeon, aged 49.

Reviews.

The Cyclopædia of Anatomy and Physiology. Part XXXII. Edited by ROBERT B. TODD, M.D.

THE circumstances which fortunately led to the authorship, by Dr. Johnson, of the article "Ren," are detailed in the following note.

> "In explanation of the use of the Latin word REN, as the heading of this article, the editor deems it necessary to state that the article was undertaken some years ago by a gentleman who failed to complete his engagement in time for its publication under the title KIDNEY; it was found necessary, consequently, to postpone the subject, and to adopt the present title. The article was subsequently committed to other hands, in which it shared a similar fate to that which it experienced at first, and it ultimately fell into the hands of its present able author.—ED." (p. 231.)

This article is not only interesting to the physiologist as a description of the exquisite structure of the kidney, but it is also of practical value to the medical man, in that it clearly connects the healthy structure of that organ with the chain of morbid alterations from that structure, conveying at the same time the signs by which the diseases of the kidney may be recognised during life.

The invaluable researches of Mr. Bowman into the structure of the Malpighian bodies, necessarily form the most important feature in the physiological part of this article, which is, indeed, written by a member of the same brilliant school in which Mr. Bowman is so distinguished.

From Mr. Bowman's researches (Phil. Trans. 1842), it appears that the urinary tubes, in their straight course from their open extremities through the medullary tissue towards their opposite termination, divide, but do not reunite; and after making numerous convolutions in the cortical tissue, each tube terminates, not in a mere blind extremity, but in a flask-like dilatation. This globular expansion of the end of the urinary tube is the capsule of the Malpighian body. The Malpighian capsule, and the wall of the urinary tube with which it is continuous, are the same in structure, each being composed of the same basement membrane; but while the tubes are lined with globular, nucleated, secreting epithelium, containing small globules of fat, the Malpighian capsule is only lined here and there by a remarkably transparent epithelial cell, not manifestly nucleated. One of the most interesting discoveries of Mr. Bowman is the existence of vibratile cilia in the neck of the capsule. These cilia do not extend over the inner lining of the capsule, but they line the inner walls of the tubes in reptiles, and probably in mammalia. The cilia have a lashing motion, and they propel the fluid from the interior of the capsule into and along the tubes.

Each Malpighian capsule is perforated by an artery, which, dilating suddenly, breaks up into diverging tortuous branches, forming a vascular tuft. The walls of the vessels of the tuft are peculiar for their thinness: they readily yield, being easily ruptured, after death by injection, or during life by any unusual acceleration or impediment in the local circulation. The capillary branches reunite into a single small vein, which emerges, perforating the capsule, where the artery enters. This vein Mr. Bowman calls a portal vein, as it, after leaving the Malpighian body, again branches out, forming a fine capillary plexus round the convoluted urinary tubes.

Dr. Gerlach has demonstrated that small nucleated cells stud the Malpighian vascular tufts, and he considers the Malpighian capsule to be, not a blind termination, but a lateral diverticulum of the uriniferous tube. Mr. Toynbee, in his valuable paper on the Intimate Structure of the Kidney, holds that the urinary tube penetrates the Malpighian capsule, forms in it a convoluted course in contact with the vascular tufts, and then emerges. Dr. Johnson rejects these views for that of Mr. Bowman, who demonstrates that the tube arises from the capsule pretty much as the urethra does from the bladder.

Professor Müller has acknowledged and confirmed the accuracy of Mr. Bowman's observations. Professor Müller's own description of the simple kidney of the myxinoid fishes—in which a large capsule, containing a tuft of vessels, terminates in a small urinary tube—confirms, by analogy, the accuracy of Mr. Bowman's view.

Mr. Bowman considers, with reason, that it is the function of the tubes to secrete, by means of its secreting epithelium, the characteristic principles of the urine, while it is that of the Malpighian tufts to eliminate from the blood the purely watery portion.

The knowledge of the *epithelial cells*, interesting physiologically, is important pathologically. The secreting epithelial cells in the convoluted portion of the urinary tube are spherical, have a distinct nucleus, and usually contain very minute globules of oil. The epithelium lining the straight tubes of the pyramids differs essentially from that in the convoluted tubes;—while the latter is the spheroidal or glandular, the former is the lamellar or scaly variety of epithelium.

Diseases of the Kidney.

That portion of this article devoted to the diseases of the kidney is of very great value: it is an additional evidence of the distinguished success with which Dr. Johnson has investigated those diseases.

The most important diagnostic indication of the diseases of the kidney is supplied by observing the nature of the *organic urinary sediments*. These sediments consist of epithelial cells and blood-corpuscles, and of *cylindrical moulds* or casts. These fibrinous moulds, first described by Franz Simon, have been cast off from the urinary tubes. The tubes have been blocked up by various materials, which, being thrown off, are found in the urine, accurate casts of the blocked-up tubes.

The component parts of these *casts of the tubes* differ in, and characterize different diseases.

In *hæmorrhage* from the kidneys, fibrinous moulds of the tubes, in which are entangled blood-corpuscles, but no epithelial cells, are found in the urinary sediment, along with free blood-corpuscles. In such cases the Malpighian capsules and the tubes are distended with blood. Hæmorrhage from the kidney may thus be distinguished from hæmorrhage from the bladder.

In *acute suppurative nephritis*, the moulds from the tubes entangle pus-globules, which are also found floating free in the urine. In cases of this class, abscesses are scattered through the kidney.

In *acute desquamative nephritis*, which occurs very frequently in scarlatina, the cylindrical fibrinous moulds of the tubes entangle both blood-corpuscles and epithelial cells, which are also found floating free in the urinary sediment. In such cases the kidneys are enlarged, apparently by the deposit of a granular material in the cortical structure, and the tubes are filled with nucleated cells, differing in no essential character from those lining the tubes in health: the Malpighian bodies are usually transparent and healthy. The abnormal products in the blood are in these cases eliminated by an excessive development of epithelial cells, which are thrown into the tubes and washed out with the urine. The desquamation from the inner surface of the tubes is analogous to that which occurs on the skin subsequent to the eruption of scarlatina.

In *chronic desquamative nephritis*—essentially of the same nature as the acute form, its frequent cause being the gouty diathesis—the casts of the tubes consist of fibrine entangling epithelial cells, like those in the acute variety, but not usually blood-corpuscles. In these cases the tubes are filled and rendered opaque by an accumulation of epithelial cells: their walls are no longer lined by normal epithelial cells; their basement membrane being in some cases entirely denuded; in others, lined by small, delicate, transparent, nucleated cells.

After the tubes have lost their normal epithelial lining (which they probably never recover), they may undergo one of three changes:—

1st. The tubes may be filled with a whitish glistening material;

2d. They may become atrophied;

3d. They may be dilated in the intervals of the fibrous matrix in which they are imbedded. These dilated tubes form the serous cysts so often seen in the cortical tissue. M. Simon has erroneously conjectured that these cysts are greatly-dilated epithelial cells.

In *fatty degeneration of the kidney*, the fibrinous moulds of the urinary tubes entangle epithelial cells more or less distended with oil: they frequently also entangle blood-corpuscles. The cells and blood-corpuscles are also found free in the urine, which s more or less albuminous. In cases of this class the kidney is usually enlarged, and its cortical portion is soft and pale, and interspersed with numerous small, yellow, opaque specks. The convoluted tubes are usually filled in different degrees with epithelial cells distended with oil; some being quite free, while others are ruptured by the great accumulation. The yellow specks are composed of the distended, sometimes ruptured, tubes.

In another and simpler form of fatty degeneration of the kidney, which may be brought on in animals by confining them in a dark room, all the tubes become almost uniformly distended with oil.

Fatty degeneration of the kidney is very commonly associated with fatty degeneration of the liver:—

> "The three forms of disease just alluded to—viz. acute and chronic desquamative nephritis, and fatty degeneration of the kidney—include the greater number of those cases to which the term 'Bright's disease' is commonly applied.
>
> "In a paper published two years since, I maintained that the term 'Bright's disease' should be confined to those cases in which there is fatty degeneration of the kidney; but, after a further consideration of the subject, I am of opinion that, if the expression 'Bright's disease' is retained, it should be used only as a generic term to include several diseases, the existence and importance of which were first made known by Dr. Bright. In order to convey a precise idea of the particular form of Bright's disease alluded to, it is clearly necessary to use some terms having a more definite meaning, and I have suggested some which appear sufficiently expressive for the purpose." (p. 263).

For the figures of the moulds of the urinary tubes in the urinary sediment, which characterize during life the various renal diseases, and for the detailed account of those diseases, we have much pleasure in referring to the very valuable, and, in part, original article of Dr. Johnson, which he concludes with the following remarks:—

> "In concluding the brief sketch of the pathology of the kidney, I will venture to predict that, within a very short space of time, the diseases of the kidney will be more completely and generally understood, with reference to their pathology, diagnosis, and treatment, than those of any other organ. There are two circumstances which justify such an anticipation:—1st, there is perhaps no important organ in the body whose minute structure has been so completely and so clearly demonstrated as that of the kidney has been by Mr. Bowman; and, 2d, the morbid deposits or accumulations to which the kidney is liable, occur, almost without exception, in such a situation, within the uriniferous tubes, that portions of these materials are being continually washed out by the stream of liquid which is poured into the extremities of the tubes, and so they come within the sphere of our daily observation: thus affording the pathologist and the practitioner an opportunity of ascertaining the nature and tracing the progress of disease which is not presented in the case of any other internal organ." (p. 264).

Professor Rymer Jones furnishes a very elaborate descriptive article on *Reptiles*, which is of great length, occupying 60 pages, and is very richly illustrated, containing no fewer than 70 engravings. The whole article is of great interest, especially to the comparative anatomist; but, from the nature of its subject, it does not admit of analysis.

The article by Dr. John Reid, on Respiration, which is not completed in this number, will, we think, prove to be one of the most important communications to this very valuable Cyclopædia. It is distinguished by profound research. By a strict induction, all the truths worked out by the various and successive inquirers, down to the most recent, are so brought together, that we have in this article a complete view of the accumulation of facts in each department of the subject. We shall reserve our notice of this article for the present.

Handbuch der allgemeinen und speciellen Gewebelehre des menschlichen Körpers, für Aertze und Studirende. By Dr. J. Gerlach. Maintz, 1848.

This is the first of three parts of a handbook on the general and special anatomy of the human body. As specified in the preface, it is designed to afford to the student a clear and comprehensive account of the minute structure of the several animal tissues, and to the practitioner who may be desirous of informing himself on this subject, a work embodying the most recent facts and descriptions relating to it. Dr. Gerlach seems to be well qualified to undertake, and bring to a satisfactory completion, a task of this kind. His name is familiar to us, particularly from an excellent description of the minute anatomy of the kidney, which appeared in Müller's Archiv about three years ago. From that description we extracted* at some length the account of his method of injecting the urinary tubules, by mixing the fluids of double injections, and not injecting them separately. That plan seems to have been very successfully used by him in the examination of other tissues besides those of the kidney; and he states that in the succeeding parts of the present work will be given many important results obtained by means of it.

The handbook is divided into two principal portions—the first relating to the general, the second to the special, anatomy of the tissues. The first division is principally occupied with an account of cells and of their various modifications, as corpuscles of blood, lymph and chyle, and cells of pigment, epithelium, and fat. The full description of these, which are rightly included among tissues, is followed by an account of fibro-cellular and elastic tissues, as the best examples of elementary structures. The development of fibro-cellular tissue from cells is, by Dr. Gerlach, limited to that which, with Henle, he calls the formless variety of the tissue; namely, the ordinary cellular tissue. The development of that variety of which fibrous membranes and tendons are constructed he believes, with others before him, to be effected by the agency of nuclei scattered in the midst of a textureless blastema. The nuclei arrange themselves in rows, corresponding with which the blastema breaks up into ribbon-like strips, and each of them again splits up into a multitude of fibrils, whence results a fasciculus of fibro-cellular tissue.

The second division of the work is occupied with an account of the compound tissues, and includes, as far as the present published part extends, the two kinds of muscles, cartilage, bone, and tooth; the microscopic structure of each of which is well described. As one among other good points in the work, we may mention that after the consideration of each tissue a few hints are given as to the best modes of preparing it for microscopic examination.

We cannot praise the few illustrations scattered through the work, for they are neither artistically good, nor sufficiently accurate to render them useful. They might, indeed, with some few exceptions, be omitted with advantage, for the accompanying text is usually copious and clear. We do not doubt the work will be well received by the members of the profession in Germany, though, like their English brethren, they would doubtless be better pleased to receive a whole than half a work, especially when that half stops in the middle of a sentence, as Dr. Gerlach's does. As far as our experience extends, we do not think that the several portions of a piece-meal work follow each other with greater rapidity and punctuality on the continent than in this country: and as human nature is the same all over the world, Dr. Gerlach would probably have secured more customers and readers of his work by delaying its publication until the whole was finished, instead of issuing but a third of it at once.

Medical Trials and Inquests.

CASE OF ALLEGED POISONING BY EXTRACT OF BELLADONNA. WAS DEATH PRODUCED BY POISON, OR WAS IT THE RESULT OF DISEASE? CONFLICTING MEDICAL EVIDENCE.

[THE following case is of great professional interest. There can be no doubt that the porter who gave out extract of belladonna with merely *verbal instructions*, was guilty of gross, not to say criminal, neglect, especially as he admitted that he knew it to be *poisonous*. The principal question at the inquest was—Did the deceased die from the effects of belladonna, or from natural causes? In reference to this question a great difference of opinion arose among the medical witnesses. Taking the whole of the facts as stated at the inquest, we are inclined to think that death from the action of belladonna was *not proved*, and that the verdict of the jury was correct. The reasons assigned by Mr. Law against death from belladonna are forcible. It is not enough in these cases, that death from poison should be rendered probable. It must be made absolutely, undeniably, and unequivocally *certain*, or no verdict to inculpate another can be returned.]

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* MEDICAL GAZETTE, vol. xxxvii. p. 8.

An inquest was held at the Town Hall, Sheffield, on Thursday, July 6th, on the body of Thomas Greaves, alleged to have died from the effects of an overdose of extract of belladonna, taken by mistake.

Hannah Greaves, widow of the deceased, examined.—I live in Love-lane, Sheffield. My husband was 76 years of age, and formerly a silversmith. He was lately in the habit of assisting Mr. Butterworth, a publican, in Fargate. He was an out-patient of the Sheffield Infirmary, and had been there twice. He went there on Tuesday last, the 4th of July, about nine o'clock, and returned home about eleven in the forenoon. He brought from the Infirmary a box of pills, some ointment in a box, and a plaster. The ointment was of a black colour. He would not take any of the stuff till Mrs. Taylor came. She came about from five to six in the evening. I saw him take a pill out of the box, and a small portion of black stuff out of a box. He took it with his own fingers, and said he was to take it, but there were no directions. There was no reading or direction on the pill-box or the ointment-box. He went to bed about seven o'clock. Before he went to bed he seemed dilatory about undressing himself, and his speech was gone. He took his breath very hardly, and rattled, and got worse and worse all the night until the morning. We never had our clothes off during the night. He complained all night of inflammation of his breast, and that he could not get his breath well. He died next day at eleven o'clock in the forenoon. He never spoke to me all the night. Just before he died he began to vomit, and asked my daughter for me. I asked him if he wanted anything, and he said no. He was convulsed all night. Mrs. Taylor put the plaster on. I think the stuff my husband took was *not so big as a pill*. I cannot say whether he used a spoon or a knife on that occasion. He could read a little. Neither of my daughters saw him take the physic.

Martha Taylor, midwife, wife of James Taylor, of Love-lane, shoemaker, examined.—The deceased went to the Infirmary on Tuesday morning last. He brought from thence a plaster for his stomach, some pills, and an electuary. He had had a strengthening plaster on before; and he was to bathe it with warm water, then take it off, and put the other in its place. This was the one he brought that morning from the Infirmary. I saw both the boxes. There was no label nor direction on them how to take them. He had his printed Infirmary paper with him, and another with a prescription on. He asked me how many of the pills he should take, and I told him to take only one of them. He did so, and afterwards took a little bit of the black stuff out of the other box. He got it out of the box with the end of a teaspoon; *it was only a little bit*. This was between five and six in the evening. About nine o'clock, I went into the house, and saw him sat on the bedside trembling. He could not speak. I saw him three or four times between six and nine o'clock. He was then in bed, and appeared to be asleep, and to take his breath very thick. I did not see him again after nine o'clock. I did not observe before I left him that he was convulsed. He lay very still when I saw him, but he moaned very much when sat on the bedside about nine o'clock. I don't think he was then sensible. He told me that he was to take the pills in the black stuff or "electuary," as he called it. I am sure he called it "electuary."

Eliza Greaves, widow of William Greaves, and daughter of the deceased, examined.—I live in Eyre Lane. I went on Tuesday night last, about seven, to my father's house, and found him sitting on the bedside. I asked him how he was, but he could not speak. I asked my mother why my father did not get into bed, as he was a long time undressed, and she said, "Tommy, get into bed; thou'll get cold." I again asked him how he was, when he tried to speak, but he shook his hands about and could not utter a word. He kept knocking his hands and feet about. I left at half-past nine, and returned about ten, when he was very hot, and his face seemed red and swollen. He continued knocking his hands about, but kept his feet stiller. I left him at half-past twelve, when he was insensible. I returned to the house at nine next morning, when, thinking he was much worse, I fetched Mr. Pearson, surgeon, of Bank Street, and then went home. I did not see him take any of the stuff. I asked my mother what had made him so ill, and she said he had taken a pill and some ointment, which Mrs. Taylor had given him. His sight was very bad. I saw Mrs. Taylor give my father, about half-past seven, about an ounce of castor oil, which Mrs. Taylor said would perhaps send the stuff he had taken through him. Mrs. Taylor gave him the pill and the ointment (?), and he took it.

William Hudson, porter to the Sheffield General Infirmary, was then called. Being duly cautioned by the Coroner that he need not say anything to criminate himself, the witness made the following statement:—I have been porter to the Sheffield General Infirmary ten years and a half. I gave Thomas Greaves his medicine on Tuesday morning last. I gave him a plaster, and a box of belladonna. I gave him directions how to use the plaster—to spread what was in the box on the plaster, and apply it to the part affected. I was very particular in giving him directions, as he was an old man. I told him the directions twice over, and said, "Do you properly understand what you have to do with what is in the box?" He replied that he perfectly understood it. I also gave him a box of pills, with the direction on the box, to take two pills three times a day. There was a label on the box of pills when I gave it to him, although there is none on now. I do not know the quantity of belladonna that I put into the box. The reason why I did not spread the belladonna on the plaster was, that, as he was an old man, I thought he had better spread it himself when he got home. The plaster would not have been of any use to him if it had been spread at the Infirmary, as he would have squeezed it together. *I gave no written or printed directions on the box of the belladonna, as to its use,* because I had told him it was to be put on the plaster, and he knew perfectly well what it was for. He had not used it before. *I know that belladonna is, to a certain extent, of a poisonous nature.* Mr. Oakes, an assistant, was in the Infirmary surgery when I gave Greaves the stuff. Mr. Oakes and I had to deliver medicines to about 900 patients that morning. *We have never had a direction for the use of belladonna as a plaster; when used in any other way there is a direction.* Mr. Law has always said to me, "Send out a proper direction with everything." We never did give any other than a verbal direction with belladonna as a plaster. It was not from inattention to my duties, or idleness, that I did not spread the belladonna, but from regard to the welfare of the old man. We have never had a mistake with belladonna before, *and it has been sent out in this way for ten years.* I think it was not my duty to spread the belladonna on the plaster, but to send it out as we had done before. I know that belladonna is an expensive article, and I think there was not more in the box than was necessary for the plaster. I am very sorry that the circumstance has occurred, but I will take care *for the future that belladonna is not sent out in that way again. We have no labels marked "poison."*

The Coroner—You ought to have.

Witness—When we have anything of poison, we write a label.

The Coroner—That is not proper. Did you write one on this box?

Witness—No.

The Coroner—You ought to have printed labels.

By a Juryman—There was no mention of an electuary, nor did I call the box of belladonna an electuary. Had it been an electuary, I should have put it in a pot, and not in a box.

Nathaniel Pearson, surgeon, examined.—I was called in on Wednesday morning at half-past nine to attend the deceased. I found him in a dying state, gasping for breath; and, as I considered him past the aid of remedies, I did not administer anything to him. I left him about ten, and he died in about an hour after. I have since, assisted by Mr. Wm. Jackson, made a post-mortem examination of the body of the deceased. Externally, the body presented a somewhat emaciated appearance, and there were no marks of violence. The vessels and membranes of the brain were highly injected, and the larger vessels distended with dark-coloured blood. The cavities of the brain were also distended with serous fluid, and the substance of the brain itself was softer than natural. The spinal canal was distended with a similar fluid, and its vessels highly injected. The stomach appeared in a natural state, both externally and internally, except at the upper part of the larger curvature internally, where the mucous membrane presented a blackened appearance, of the size of the palm of the hand, indicating a state of incipient mortification of the part. The abdominal viscera otherwise presented no unhealthy appearance. The heart was quite natural in appearance; the lungs in an uncollapsed state, and much darker in appearance than natural: they were filled with air, arising from an obstructed condition of the respiratory organs. The bladder and the intestines were perfectly healthy. I ascribe the death of the deceased to the effects of a narcotic poison. Belladonna would produce precisely the appearances which we found in the organic structures after death. *I should say the quantity alleged to be taken, as on the paper produced, contained four grains.* Belladonna is so seldom given internally, that it is difficult to state the smallest amount that would produce death. I think that five grains, under the circumstances of the advanced age of the deceased, and the disordered state of the chest, would produce death. The pupils of the eye of the deceased were *considerably dilated.* I do think, without doubt, that, in this instance, belladonna has been the cause of death. Taking the state of his health, before he took the dose, into consideration, and comparing that state with the symptoms after taking the dose, and further observing the evidences of disease after death, I am quite convinced death was produced from narcotic poison, and no other cause. Mr. Jackson fully concurred with me in opinion as to the cause of death. The box contained *five drachms* *of the extract of belladonna*, which was more than was necessary for the plaster produced. Belladonna is a medicine very uncertain in its operation.

At the request of the Coroner, the inquest was then adjourned to Wednesday, July 12th. The following additional evidence was then given:—

Mr. William Jackson, surgeon, Sheffield. —I did not know Thomas Greaves, the deceased. On Thursday, the 6th instant, I assisted Mr. Pearson in making a post-mortem examination of the body of a man in Love Lane, who appeared to be upwards of 78 years of age. [The witness corroborated the evidence given on the first inquiry by Mr. Pearson, as to the appearances of the body when so examined.] I have no doubt but that the congested state of the brain, and the effusion of fluid in the cavities of the brain at its base, as well as in the spinal canal, produced the death of the deceased. The appearances might arise from the excessive use of spirituous liquors; the action of a narcotic poison; or it may have arisen from the peculiar state of the brain arising from natural causes. If I am to take for granted the evidence given by Mr. Pearson as to the symptoms previous to death, and the statement he has given on oath, I should say death arose from a narcotic poison. Connecting that statement with the appearances we found after death, we are justified in stating that deceased died from a narcotic poison, but I cannot swear it was belladonna. If I had not been made acquainted with the symptoms during life, I should not have been able to state positively the precise cause of the death of the deceased. The effects of belladonna are pretty certain if it be pure, but they may be modified by peculiarity of the constitution of the person who takes it. I never saw a fatal case before of poisoning by belladonna, if this is to be considered one. I cannot undertake to say what would be the minimum dose that would produce death. I have given belladonna extensively in practice, but I do not remember a case in which I could safely give more than two grains. I think if I had seen the patient an hour before he died, I should have made an attempt to relieve his stomach of the poison. I think the friends of the deceased were highly culpable in not sooner applying for medical aid, as it is probable his life might have been saved. In the interval of from six o'clock in the evening till nine next morning, the belladonna would be absorbed into the system. The blackened state of the stomach of the deceased is a strong corroboration of the person having taken some poison. I cannot say that the deceased died from the use of spirituous liquors. From the mere examination of the brain it would be impossible to say from what cause he died. A large dose of belladonna, if pure, would certainly produce death. It is of great importance in a public institution that the medicine should be genuine. I have no doubt the drugs are obtained from a respectable dealer. The action of belladonna is upon the nervous system, and produces stupor, sleep, delirium, paralysis, and loss of articulation, which are the mode of death. If I had been called in at ten o'clock at night, I might have saved his life.

Mr. Henry Oakes, dispenser of medicine at the Sheffield Infirmary.—I have served an apprenticeship to a chemist and druggist. I did not know the deceased. He was an out-patient of the Infirmary. I did not hear William Hudson, the porter, give directions to him or any one else on Tuesday morning week respecting belladonna; nor did I see him put any in a box. The reason why the porter is allowed to give out medicines is because there is more work than one person can do. That morning we had to deliver medicine to 800 or 900 persons; I think additional help is necessary. Our orders are, not to send out medicines without written or printed orders: and they never do if I know it. *It is not usual to send out belladonna in a box, if it is intended to be used as a plaster.* If Hudson had given Greaves or any other person any directions about belladonna being spread upon a plaster that morning, I should have heard him, and prevented him doing so. *I should not have sent belladonna in a box. I have never known it so sent out.* I believe the belladonna was genuine. I think it is not possible that those directions should have been given without my hearing them. We have no labels with poison printed upon them. When we have no printed labels we write one, for poison.

Mr. Joseph Law, surgeon to the Infirmary.—Having heard the medical evidence, in which are detailed both the symptoms which preceded death, and the appearances which were observed on the post-mortem examination, I am decidedly of opinion that the deceased did not die either from belladonna or from any narcotico-acrid poison. I have not one word to say in justification of the manner in which this box, whether containing belladonna or not, was sent out of the Infirmary. I should have disapproved of its being sent out, even accompanied by the fullest possible either written or printed directions. It was done contrary to a well-understood order which I have given and frequently repeated. The dose of belladonna which (if this be a case of poisoning) was given, was only four grains; now there is *not on record one case in which either four grains, or any similar dose, produced death.* On looking at all the authorities I could, ending my researches with this work by Taylor, printed in the present year, I find twenty reports of cases of poisoning (but not fatal) by belladonna. In these cases I find the largest dose taken was one ounce, and that the doses varied (and the symptoms also) from that quantity downward; but where the doses were very small, the symptoms were also trifling. There is not a fatal case of poisoning by the *extract* of belladonna taken internally on record. There was in the case of Thomas Greaves, the deceased, dilatation of the pupil, but no insensibility of it, and *dilatation without insensibility is not a sign of poisoning by belladonna.* The first and most prominent symptoms of poisoning by belladonna were all absent. There was *no dryness of the mouth and gullet, no difficulty in swallowing*, no tumefaction, and, in the evidence of the medical witnesses, no mention is made of redness of the face, hands, or any other part of the surface of the body. Nausea, a common symptom of poisoning by belladonna, was not spoken of as one of the symptoms preceding death, There was the absence of that lively *talkative delirium which has characterised almost every case of belladonna poisoning*, either by the extract, the root, the leaves, or the berries; and instead of these symptoms, it is my medical opinion that we had the symptoms which usually result from that kind of effusion into the ventricles of the brain and the spinal canal which was sworn to. The first medical witness stated that there was serous effusion in the ventricles of the brain, and in the spinal canal; but Mr. Jackson stated that this effusion was found in these situations, and also at the base of the brain. Now, serous effusion is quite sufficient to produce death; but whether it exists in any or in all of these situations it is no sign whatever of poisoning by belladonna. There is one case, and only one, recorded in which there was softening of the brain. The appearances, therefore, of the brain were not those of poisoning by belladonna. The tubercula quadrigemina are pointed out by a very high authority, Flourens, as being the part of the brain principally affected, and the condition of this part of the brain has not been alluded to either by Mr. Jackson or Mr. Pearson. We find a black patch, as large as the palm of the hand, on the upper part of the larger curvature of the stomach, and this black patch is sworn to as a patch of incipient mortification. M. Gaultier de Claubry had 180 cases of poisoning by belladonna berries, and he examined the fatal cases; but neither he, nor Beck, nor Taylor, nor any other authority whatever, make any mention of *mortification in any organ or texture of the body* as one of the symptoms of poisoning by belladonna in any form. Neither of the medical gentlemen who have given evidence here have seen a case of p isoning by belladonna, and all medical facts and pathological principles oppose the belief that four grains of the extract of belladonna could produce, either in sixteen hours or any longer period, a patch of mortification in the stomach. I am quite aware that these authorities speak of rapid decomposition of the bodies killed with belladonna; but rapid decomposition of the whole body is neither mortification, nor in the remotest manner allied to it. A mortified patch of mucous membrane would not be black unless it were dyed black by some extraneous body. In all the cases I have witnessed (and they are not few), the colour has been the colour of the secretions—generally yellow—sometimes grey, but never black; and I know that if the whole of the four grains swallowed had been applied to that part of the stomach, and if not one atom of it had been mixed with the secretions generally, it could not possibly have blackened so large a surface. It is my opinion that I ought to have had the opportunity of witnessing the post-mortem examination of the deceased; and it is my opinion that I have a right to complain that this opportunity was not afforded me. It is my opinion that a very small amount of mortification of the stomach, much smaller than the patch sworn to in this case, would have produced death; and it is quite certain that this mortification was not produced by belladonna. Belladonna was sworn to by the first medical witness as a narcotic poison simply—not as a narcotico-acrid poison. Now, it is only by its acrid property that it could affect the stomach at all, or produce any local effect whatever. John Bailey, the author of a very important monograph on the medical use of belladonna, says that he began his medical career with one grain, and gradually increased it, but subsequent experience taught him that it was best to begin with three grains, and he adhered to that plan. I estimate the number of out-patients receiving medicine on Tuesday at about 400; I think that there is ample provision made for dispensing the medicines; and I think also that when I am in the Dispensary, directions might and would be given by another dispenser that I might not hear. I am decidedly of opinion that four grains of belladonna, given to the deceased, though labouring under a disease of the chest, would not produce death; and I am further of opinion that in an old man, enfeebled, exhausted, and diseased, it would require a more powerful agency to produce serious organic lesion, than in a young, vigorous, and healthy person; the lower the vital actions, the more difficult it is to produce active morbid action: at the same time I admit that the old and feeble man would die under the production of more trifling organic lesions than would be required to kill the healthy and vigorous subject. The deceased had a condensed (?) lung; and the other appearances spoken to are sufficient to cause death. I think he died from natural causes, and not from the effect of any narcotico-acrid poison. The prescription was not written by Mr. Overend, but by Dr. Thompson.

Mr. Pearson said he was sorry if he had committed any breach of professional etiquette in not inviting Mr. Law to be present at the *post-mortem* examination. It was not intentional, but arose from his being much engaged at the time.

The Coroner, after carefully reading over and commenting on the evidence, said, it appeared from the statement of Mrs. Taylor, that the deceased had taken but a very small bit of the black stuff out of the box (meaning the extract of belladonna), and on being desired to show to the Jury how much he had taken, it appeared, from the opinion of Mr. Pearson, to be only about four grains. Now, the dose for an adult varies from *one to five grains*. The extract, when taken in large doses, produces all the symptoms of a powerful narcotic poison; but it is stated in Taylor's and Guy's works on "Medical Jurisprudence," that there have been very few instances known of this poison proving fatal, and that patients have recovered from very large doses. A case is published by Mr. Clayton, where a man took forty grains of the extract, and recovered; and another case occurred at St. George's Hospital, under Sir B. Brodie, in which an ounce of the extract had been taken, and the person recovered. It is, therefore, pretty clear that it is a medicine uncertain in its operation, and not so active a poison as its common name would imply, and is much less virulent than some of the other narcotico-irritant poisons. Christison, in his able work, states if the accident is taken in time, poisoning with belladonna is rarely fatal; for as the state first induced is *delirium*, not stupor, suspicion is soon excited, and emetics may be made to act before a sufficient quantity of the poison has been absorbed to prove fatal. In this instance, the quantity taken by the deceased being small, it did not produce that extravagant delirium common in these cases, but there were dilated pupils, and the other symptoms mentioned by the witnesses. Now, should not the friends of the deceased in this case, when they found the state in which he was, *soon after he had taken* the pill and the extract of belladonna, have *immediately* sent for a medical man, and not have waited till nine o'clock of the *following morning* (when the patient was dying) before they called in medical assistance? and should not the medical man *even then* have adopted prompt remedies, as his patient lived more than an hour *after* he saw him? The facts of the whole case are now before you in evidence, and if you are of opinion that the quantity of the extract of belladonna taken by Thomas Greaves produced his death,—and that the porter, William Hudson, in sending out that poisonous medicine *without proper printed or written directions*, shewed such negligence and disregard for human life, as will in your judgment render it necessary that this case should be sent before a higher tribunal, I am afraid it will be your duty to find him guilty of manslaughter,—it being clearly laid down, that if a party is guilty of negligence, and death results, the party guilty of that negligence is also guilty of manslaughter. But if you should be of a contrary opinion, you will have to say whether the deceased came to his death "accidentally from taking belladonna by mistake," or that he died from natural causes. I do, however, consider it my duty strongly to condemn the loose and dangerous manner in which poisonous medicines have been permitted to be sent out from the Sheffield General Infirmary, by William Hudson, the porter, and to suggest to the proper authorities there, that in future the *porter* should *not* be permitted to give out any medicines, and that none should on any account whatever be sent out without full and proper written or printed directions. It also appears to me, that on account of the great number of patients at the Infirmary, competent additional assistance should be immediately obtained, properly to dispense the medicines prescribed.

The Jury fully concurred with the Coroner in his remarks as to the loose manner in which medicines were sent from the Infirmary; and they recommended the instant dismissal of the porter from his situation.

The Jury, after retiring for some time, returned the following verdict:—"The Jury are of opinion that there is not sufficient evidence to satisfy them that the deceased has died from the fatal effects of belladonna, and they, therefore, return a verdict that he died from natural causes. The Jury, however, blame the friends for not sooner calling in medical assistance."—*Provincial Journal, Sept.* 20.

Correspondence.

GENERAL INDICES TO PERIODICALS.

Sir,—I have a set of the British and Foreign Medical Review, and, as most of your readers may do when they have a difficult case or an obscure point to get clearer notions of, I have often turned to the Indexes, and with much trouble discovered what I wanted. But the new general Index, in one volume, renders me at once master of all the contents of the series; and the great advantages in making the set of practical use urges me to recommend all who have the volumes to purchase the Index. I have not your series, though I read your numbers regularly, but I congratulate those who possess the whole that you are about to publish an Index also, and I trust the sale of these general Indexes will be sufficiently remunerative to lead to their general adoption by all editors and publishers of Reviews and Serials. If they do not sell, they will not be undertaken; and the only reason they will not sell must be from ignorance of their usefulness, for by such an Index a whole shelf of otherwise useless books are rendered of practical value. Dr. Johnson said, that next to having a thing was to know where to find it. This is no advertisement in the form of a letter. I have no possible interest in the matter, except that general interest for the good of my profession which I hope I shall always feel.—I am, sir,

Yours obediently,
M. D.

*** We quite agree in the view taken by our correspondent, and trust that his advice will be followed.

Medical Intelligence.

CENTRAL BOARD OF HEALTH.—INSTRUCTIONS TO THE PUBLIC RESPECTING THE TREATMENT OF CHOLERA.

As there seems reason to apprehend that Cholera may again, perhaps within a short period, reach this country, the Commissioners of Health deem it advisable to submit, for general information, the following observations in reference to the epidemic, and to the measures proper to be adopted in the event of its re-appearance in this country.

The Commissioners of Health are anxious to impress upon all persons the important difference that exists between Cholera and Fever, with respect to the mode of propagation of these epidemic diseases. Fever, it is well known, is highly contagious, or easily propagated from one individual to another, while all experience shows that Cholera is rarely, if ever, contagious; consequently, the separation of the sick from the healthy—a measure so essential in checking the spread of Fever—is not required in Cholera, and the friends and relatives of persons attacked with cholera may be under no apprehension of catching the disease, and need not be deterred from affording to the sick, in their own dwellings, every needful assistance and attention. This view of the subject has an important bearing upon the measures to be adopted in meeting a visitation of Cholera. In contending against epidemic Fevers, it has been found necessary to maintain large Hospital Establishments for the purpose of preventing the spread of the disease by infection, and of affording to the sick those attentions which are so often required during the tedious recovery from Fever; but the case is different with respect to Cholera, and the Commissioners of Health, after mature consideration, do not advise that Cholera should be met with an extended system of Hospital accommodation, such as is needful in epidemics of Fever, but recommend, in preference, a general system of prompt and efficient Dispensary relief, for the following reasons:—

1stly. That Cholera being rarely, if ever, contagious, there is not the risk of infection, as in Fever, in leaving the sick in their own dwellings, or in receiving them into General Hospitals.

2dly. That an attack of Cholera being usually so sudden, and its whole duration so short, the delay necessarily attendant upon the removal of the patient to Hospital may lead to loss of life, or of the time most valuable for treatment.

3dly. That the Medical treatment of Cholera, being much more simple than that of Fever, can be efficiently conducted at the dwellings of the patients, and the required assistance to medical treatment can be as effectively given by the families and friends of the sick, as by nurses in Hospitals.

4thly. That recovery from Cholera not being ordinarily followed by prolonged debility, such as attends on Fever, patients on their recovery from an attack of Cholera do not generally stand in need of the same lengthened Hospital attendance as Fever patients.

The Commissioners of Health do not, however, advise, that, in the event of the appearance of Cholera, Hospital relief should be altogether dispensed with, as there is always, particularly in cities, a large class of persons who have neither friends nor the means of support, and to such persons efficient relief cannot be afforded except in Hospitals. The non-contagious character of Cholera fortunately removes all objection to the receiving of persons suffering under the disease into the ordinary Hospitals of the country, whether County Infirmaries or Fever Hospitals, all of which the Commissioners of Health advise should be open and in readiness to receive destitute patients in Cholera. The Commissioners of Health believe, that besides the advantages of affording prompt and efficient relief to destitute persons affected with Cholera, the admission of such patients into the ordinary Hospitals of the country would be attended with salutary moral effects. It would greatly lessen, if not quite remove, the generally-prevailing apprehensions respecting the highly contagious nature of the disease, and would thus dispose the friends and relatives of the sick to be more active and constant in their attentions; the sick themselves, no longer treated like persons stricken by a pestilence, would acquire confidence, and with confidence a strength that would enable them the better to struggle with the disease.

Nature of the Attack.—It seems to be a well-established fact, and one that cannot be too strongly impressed upon the minds of the people generally, as upon this fact depends the best hope of successfully contending with the disease, that in nearly all cases of Cholera, there are two stages of the disease; the *first* being merely Diarrhœa, or simple looseness of the bowels; the *second* being the stage of Collapse or Blue Cholera, marked by cramps, failure of the circulation, lividity of the skin, cold, clammy perspiration, and all the other well-known symptoms of the disease. In the first stage of the disease, medical treatment is frequently successful: in the second stage too often of no avail.

The first stage, *Diarrhœa, or mere looseness of the bowels*, may be of a few hours' duration, or may continue from one to several days. It is most important to bear in mind, that this Diarrhœa *may be entirely without pain;* indeed, it most frequently is without pain, or merely accompanied with trifling griping or uneasiness. This absence of pain, or the little accompanying uneasiness, has too often thrown the patient off his guard, who has thus neglected the warning of his danger, and has allowed the time for cure to pass by. It may be safely asserted, that during the prevalence of an epidemic of Cholera, Diarrhœa, or looseness of bowels, which is free from pain, is more dangerous—more likely to be the first stage of the disease—than Diarrhœa accompanied with griping or pain. Let it then be clearly understood, that *when the epidemic is prevalent, mere looseness of the bowels with or without pain, may be the commencement or first stage of Cholera—that the disease is generally curable in this stage—and that not a moment should be lost in applying for relief.*

To afford this immediate relief, the Commissioners of Health recommend that every existing Medical Institution, whether Hospital or Dispensary, should be open day and night, during the prevalence of Cholera, to all applicants, without distinction, where all who apply should obtain, without *a moment's delay*, advice and medicine; and from which all the poor, who may be unable to leave their dwellings, may be visited with promptitude, and supplied with medicine at home, or transferred, if requisite, to Hospital.

To effect these objects, the following arrangements are recommended:—

1stly. The prescribing room of every medical institution, whether Hospital or Dispensary, should be open day and night, without intermission, during the prevalence of Cholera, and a Medical Officer should be in constant attendance to prescribe for all applicants.

2ndly. Each Hospital and Dispensary should have a certain district allotted to it, and the attending Porter or Clerk should keep a book in which he should enter the names and residences of all applicants for relief within the district, who are unable to leave their homes. The book should show the time of application, and the name and residence of the patient.

3rdly. A second medical officer should be constantly in readiness to receive the names of all such applicants, and to proceed, without delay, to visit them. The visiting physician, instead of writing a prescription at the residence of the patient, should be provided with a small portable pocket-medicine-box, containing the medicines most generally required made up in such a form as to render their administration as speedy and as simple as possible. Such portable medicine-boxes can be procured at a very small cost, or may be made up, on an emergency, of pasteboard, or thin board, or tin, in the form of a book about seven inches long, four inches broad, and one inch deep, with one of the sides to fold back, or open on hinges. The services of an Apothecary will be required to keep up a constant supply of the medicines required, made up ready for use. The Medical Officers will generally give formulæ for the medicines they may deem best. The following, may, however, serve as an example of what should be generally provided in the pocket-medicine-boxes. The most portable forms for the medicines are selected; the directions should, as far as practicable, be printed:—

POWDERS.—*Carbonate of Ammonia*, in waxed papers, each paper containing 40 grains, with the following printed directions on the outside:—"Dissolve this powder in half a pint of water, give two table-spoonfuls every hour."

POWDERS.—*Compound powder of Chalk with Opium (Pulv. Cretæ c. Opio)*, in packets, each containing 6 papers, each paper containing 10 grains of the Powder, with printed directions:—"One Powder every half-hour until the looseness ceases."

PILLS *of Powdered Opium*, each containing one quarter of a grain of Opium, and two grains of Powdered Ginger, made up with Oil of Peppermint. The Pills to be in boxes, each box containing 6 Pills, with a printed label:—"Opium Pills, one every half-hour until the looseness ceases."

Pills *of Mercury and Opium*, each containing one quarter of a grain of Calomel, two grains of Hydrargyrum c. Cretâ (Mercury with Chalk), and a quarter of a grain of Opium, made up with *Oil of Caraway* (which will serve to distinguish them from the plain Opium Pills), in Boxes, each containing 6 Pills, with a printed label:—"Mercury and Opium Pills, one every half-hour."

Bottles (one or two ounce phials, with *cork* stoppers),

1. Containing—Tincture of Opium (Laudanum),
2. " Hoffman's Liquor,
3. " Tincture of Rhatany,
4. " Creosote.

Along with the box should be carried a small jar of strong brown mustard.

The Visiting Physician should also be furnished with printed Forms, for the removal to Hospital of patients who are destitute of assistance in their own dwellings;—in short, every measure should be adopted that will obviate the least delay. It may be necessary in some instances to establish Temporary District Dispensaries, but it is most desirable, for reasons already given, that the permanent institutions should be first made available.

It is not within the purpose of a communication such as this to go into details of treatment. There are, however, two points on which the Commissioners of Health feel it will not be out of place to give an opinion, viz., the employment of frictions, and the allowance of drinks to the sick. The Commissioners cannot recommend that fluid applications of any kind should be employed in frictions on the body or limbs, as the cold consequent on prolonged exposure and evaporation more than counterbalances any supposed good effect from friction, which, if at all used, should be made merely with the warm hand without disturbing the bedclothes. The Commissioners also advise that when patients suffer from thirst, they should in general be permitted to drink freely, as experience shows that the denial of drink does not check vomiting, while it increases very much the suffering of the patient from the burning thirst that so often accompanies the disease.

It is scarcely necessary to observe that, as far as empowered by Act of Parliament, the Commissioners of Health will afford all the co-operation and advice in their power to Managing Committees of Public Institutions, and to Voluntary Sanitary Associations, whose aid may be most useful in carrying out the above measures. To fix the necessary precautions and instructions in the minds of the people, it is recommended that copies of the following Circular be printed and extensively published and posted unde the directions of the Local Committees.

CHOLERA.—PRECAUTIONS AND INSTRUCTIONS FROM COMMISSIONERS OF HEALTH.

Shun damp and low situations, and, if possible, quit dwellings in such places during the prevalence of Cholera; keep your houses and rooms dry, and the windows and doors open as much and as long as the weather will permit;—there can scarcely be too much ventilation. An abundant supply of fresh air is as necessary during the night as in the day, and pure air is as requisite for the support of life and health as good food.

Remove all stagnant water and dung heaps from around your dwellings, and clean out all sewers without delay. Do these things at once, without waiting for the outbreak of the disease. It will be unsafe, and it will be too late to undertake them, when Cholera shall have broken out.

Avoid chills; do not wear wet clothes a moment longer than can be avoided. Wear a flannel belt round the stomach and loins—make use of plain wholesome food, in the solid rather than in the liquid form—abstain from fruit, raw and ill-cooked vegetables, pastry, smoked and hard salted meats, and salted fish, pork, cider, stale or sour malt drinks, pickles, and all articles of diet that from experience are known to have a purgative effect.

Avoid purgative medicines, particularly Castor Oil, Seidlitz Powders, and Salts.

Be very careful that the water used as drink is of good quality.

Abstain from stimulants unless prescribed as remedies under medical advice. In former visitations of Cholera, many persons, both rich and poor, resorted to the use of stimulants—wine, whiskey, brandy, &c., under the false impression, that what was sometimes useful as a cure, was also good as a preventive. This is a great error;—stimulants, frequently taken, or taken in excess, are followed by collapse, which predisposes to the disease, and the general health, moreover, is seriously and permanently injured by the practice. In fine, shun damp places, particularly for sleeping; breathe pure air; observe cleanliness; keep the surface of the body warm; avoid fatigues, and excesses of all kinds; use wholesome plain food; live temperately; preserve, as much as possible, a state of general good health, and you will have adopted the best safeguards against Cholera.

NOTICE.

1st. If attacked by Diarrhœa or looseness of the bowels, however slight, *whether with or without pain*, *apply*, WITHOUT A MOMENT'S DELAY, at the Dispensary in , where medical relief will be given at any hour of the day or night.

2d. Let notice be given without delay, at any hour of the day or night, at the same place, of the name and residence of any patient affected with vomiting, purging, or cramps, who may be unable to go out; immediate attendance will be given, and, if necessary, the patient will be removed to hospital.

Should you be attacked with Diarrhoea or looseness of the bowels, with or without pain, and that medical advice is not at hand, go at once to bed, wrap yourself in warm blankets, roll a swathe of warm flannel, sprinkled with hot spirits of turpentine or whiskey, closely round the body, extending from the chest to the hips, and take a teaspoonful of brandy or whiskey in a little water, with fifteen drops of laudanum, repeating it every hour, if the attack be not checked, until a third dose has been taken, but do not venture further in the use of laudanum without medical advice.

By Order of the Commissioners,
W. H. Hopper,
Central Board of Health, Secretary.
Dublin, 1st Sept., 1848.

ORDER IN COUNCIL IN REFERENCE TO THE ENFORCEMENT OF THE CONTAGIOUS AND EPIDEMIC DISEASES PREVENTION ACT.

11TH AND 12TH VICTORIA, CAP. 123.

The following order in Council, enforcing the provisions contained in the bill passed last session for the prevention of contagious and epidemic diseases, appeared in the *Gazette* on Friday last:—

At the Council-chamber, Whitehall, the 28th day of September, 1848,
By the Lords of Her Majesty's Most Hon. Privy Council.

Whereas by an act, passed in the last session of Parliament, entitled "An Act to renew and amend an Act of the 10th year of Her present Majesty, for the more speedy removal of certain nuisances, and the prevention of contagious and epidemic diseases," after reciting that it is expedient that when any part of the United Kingdom shall appear to be threatened with or affected by any formidable epidemic, endemic, or contagious disease, measures of precaution should be taken with promptitude, according to the exigency of the case, it is enacted, that, in Great Britain, the Lords and others of Her Majesty's Most Hon. Privy Council, or any three or more of them (the Lord President of the Council, or one of Her Majesty's Principal Secretaries of State, being one), may, by order or orders, to be by them from time to time made, direct that the provisions in the said act contained for the prevention of epidemic, endemic, and contagious diseases be put in force in Great Britain, or in any such parts thereof, or in such places therein respectively, as in such order or orders respectively may be expressed, and may from time to time, as to all or any of the parts or places to which any such order or orders may extend, and in like manner revoke or renew any such order, and subject to revocation and renewal as aforesaid, every such order shall be in force for six calendar months, or for such shorter period as in such order shall be expressed;

And whereas the United Kingdom appears to be threatened with a formidable epidemic disease, in consequence of the progressive advance of such a disease to the western portion of the continent of Europe, and a case has arisen for putting in force the provisions of the said act;

Now, therefore, it is hereby ordered by the Lords and others of Her Majesty's Most Hon. Privy Council (of whom the Right Hon. Viscount Palmerston, one of Her Majesty's Principal Secretaries of State, is one), in pursuance and exercise of the powers so vested in them as aforesaid, that the provisions contained in the said herein-before-recited act for the prevention of epidemic, endemic, and contagious diseases, be put in force throughout the whole of Great Britain immediately from and after the date of this order.

And it is further ordered that this order shall continue in force for six calendar months from and after the date hereof.

C. C. Greville.

REPORTED APPEARANCE OF THE CHOLERA AT HULL.

Three cases of cholera have occurred on board of a vessel now lying at this port. A careful inquiry has satisfied us that the present are *bonâ fide* cases of cholera. For some months past, during the continuance of the Danish bombardment of the Elbe and Prussian ports, there has been lying in the old dock at this port a Prussian bark, of some 500 tons burden or upwards, named the Pallas, of Stettin, of which Captain Muller is the commander. He and the crew went home some months ago, leaving only the carpenter in charge. On Friday last the captain, with a crew of 10 men, from Stralsund, Wismar, and the neighbourhood, arrived here by one of the steamers which left Hamburgh yesterday week. It is known that the cholera has prevailed in the latter city for some weeks past. They went on board the Pallas on Friday. The same night Carl Petor, one of the crew, was seized with a bowel complaint. The master obtained the assistance of Dr. Cooper, but the man expired on Sunday morning. Nicholas Rose, the cook, began to be similarly ill on Sunday morning, had the like assistance, and died on Monday. The steersman (or mate), William Fisher, began to be ill on Monday morning, and expired the same day. Another man was similarly attacked, but is recovering. We mention these particulars on the authority of Dr. Ayre, who, it is well known, was one of the most successful practitioners in cases of cholera when it appeared in this town 16 years ago. That the deaths now named were produced by cholera Dr. Ayre has no doubt; other medical authorities are equally satisfied upon the point. Since the above was written, the Government sent down Dr. Sutherland from the General Board of Health, who arrived yesterday morning. The instructions simply are, that Dr. Sutherland and his colleague, Mr. Grainger, who were to arrive yesterday evening, were to make medical inquiry and report to the Board of Health, while the Customs were to see that all communication between the Pallas and the shore, excepting to medical men, under certain restrictions, be cut off until six days expire after the last death or the last recovery.

⁂ The following additional information respecting these cases was reported in the *Times* of October 4th:—

Three sailors on board a ship bound from Hamburgh, laden with fruit, or at any rate with a considerable cargo of fruit on board, had occupied the greater portion of their time during the voyage in eating plums, the very fruit of all others most likely to engender the disease (?) if consumed in great quantities. In each of these cases a portentous number of these plums were devoured, and, to make matters better, the three men are reported to have washed down the fruit, ripe or unripe, as the case might be, with copious draughts of sour beer. We will venture to say, that if the person in London least predisposed to the complaint were to indulge himself in such a dietary to half the extent reported of these three sailors, a very few hours would produce the same results. We must therefore set aside these three cases as not containing the slightest legitimate ground for apprehension.

⁂ If we are to believe this statement, these were not cases of Asiatic cholera, but simply of English cholera proving fatal with unusual rapidity. This implies, therefore, that Dr. Ayre must have been mistaken in his diagnosis; for plums and sour beer swallowed in any quantity do not produce that form of cholera (Asiatic) which has excited so much fear in the public mind; nevertheless, all the circumstances are fraught with great suspicion. The men who died had recently arrived from Hamburgh, where the cholera is prevailing, and their deaths took place with unusual rapidity. Although the symptoms are said to have been satisfactorily traced to plums and sour beer, the Government acted with great propriety in putting the crew of the vessel under some restriction.

PROGRESS OF THE CHOLERA ON THE CONTINENT.

St. Petersburgh, Sept. 21st.—From the 11th to the 16th there were 86 new cases, and 32 deaths. The disease is sensibly on the decline. The total number of cases on the 17th amounted to 165.

Syria and *Egypt*.—The disease has considerably abated in these countries. The number of deaths is estimated to have been greater than in 1831.

Riga.—The disease is disappearing. On September 7th, there were only seven new cases. The total number of persons attacked in this town has been 6680. Of these, there were 4394 recoveries, and 2115 deaths. There were still 171 persons under treatment.

Stettin, Sept. 17th.—The cholera broke out in this town about the end of July. The temperature during the month had been cold but variable, and the health of the people good, except towards the close, when diarrhoea and gastric disorders became suddenly prevalent. On the 8th August, one case occurred in a man working in the docks—the wind being cool, and from the north-west. It is remarkable that none of the large towns between this and Russia had up to that time suffered. On the 10th, an officer in garrison died. The disease then spread extensively in the quarter where it first appeared, which is surrounded by marshy swamps. It was much more severe than in 1831; 275 persons died from it in three weeks, *i. e.* as many as died in seventeen weeks on the former invasion. All ages were cut off. From the 8th August to the 11th September, there were 938 cases, and 611 deaths.

Bucharest, August 31.—The disease has perceptibly declined during the month. The number of cases has been 3384, and 853 deaths. In the surrounding country, the cases amounted to 35,881, and the deaths to 10,719.

Odessa, Sept. 8th.—The cholera has totally disappeared from this city.

Berlin, Sept. 24.—The cholera is fast disappearing.

Hamburgh.—The latest accounts state that the disease is still on the increase at Hamburgh. From the 1st of September, when it broke out, to the 26th, there were 1,339 cases, of which 650 died, 302 recovered, and 387 were still under treatment. There is a great deal of sickness on board the English ships lying at Hamburgh. Two cases of cholera have appeared in the port of Sunderland. One of them, the case of a sailor on board of a vessel recently come from Hamburgh, was investigated by Dr. Sutherland, the inspector, who was sent by the General Board of Health to examine it, and left no doubt on his mind as to its being Asiatic cholera; but the subject was a man of very intemperate habits, who had been three times on shore at Hamburgh, and came back drunk.

THE CHOLERA AT TRIESTE.—IMPORTANCE AND UTILITY OF QUARANTINE RESTRICTIONS.

SEVERAL clever essays have been written to prove that Asiatic cholera cannot be kept out by quarantine restrictions. The appearance of the cholera at the remote port of Trieste, on he northern part of the Adriatic sea, is now onfirmed; and the fact is deserving of the notice of those medical writers who have come to the conclusion that no quarantine restrictions will keep out the disease. A ship recently arrived in that port from Constantinople, where cholera was raging, and the captain was seized with the disease on his arrival. The appearance of cholera in the town soon after this event, when neither coast of the Adriatic had suffered, and most of the places situated between Trieste and Constantinople had escaped, is sufficient to render the transmission of the disease by the ship in the highest degree probable, and to justify our Government in detaining all foreign ships arriving on our coasts from suspected ports. It is, we think, clear that if a disease may be introduced by want of precaution, it may be kept out by a rigorous observance of quarantine.

The failure of quarantine regulations in the Mediterranean ports is commonly owing to the venality or carelessness of those who have to look after their due execution. *Quis custodiet ipsos custodes?* Every Health officer has his bribe, and a communication with the shore at night may easily be purchased for a few scudi. While performing quarantine in one of these ports, having arrived with a foul bill of health from another port, where a case of plague had recently occurred, we had ample opportunity of watching the proceedings. The passports were taken with great precaution at the end of a long stick, and duly singed. Two sanitary officers were put on board. These men were rendered thoroughly intoxicated in the evening, so that some of the crew were enabled to row to, and have free communication with, the shore. We mention this fact because we think circumstances of this kind will often account for the failure of quarantine. The difficulty really consists in causing the rules to be strictly obeyed—the slightest violation of them is sufficient to render all other proceedings useless.

We are glad to perceive that the Government are acting as if the cholera were susceptible of importation, which we believe it to be, and that suspected vessels are to be kept in seclusion for a certain period. This is as it should be. No human contrivance may be successful in averting the outbreak of the pestilence, but it would be culpable to neglect any precaution that experience would suggest.

Selections from Journals.

CASE OF PERFORATING ULCER OF THE COLON: MECHANICAL OCCLUSION BY HARDENED FÆCES. BY MR. CHARLES ANDERTON.

MR. ANDERTON has lately communicated the following interesting case to the Provincial Journal:—

I was called to visit Miss H. J. S——, aged 11 years, in September, 1847, labouring under an attack of measles, which, prior to my being called in, were well and fully developed, but at this particular juncture a retrocession of the eruption had taken place without any special indications of mischief. After the lapse of a short time, evident symptoms of abdominal lesion made their appearance, indicated by strong and almost uncontrollable paroxysms of pain. In addition, we had in this case the rectum charged to an amazing extent with fæcal concretions, resembling masses of calcareous earth, which my enfeebled little patient could not, *per vires naturales*, part with; they therefore required to be removed manually with a kind of scoop, and this, indeed, required much force. I ought to observe that, when the more hardened portions had been removed, the throwing up of an injection had the effect of encouraging the bowels to relieve themselves, and the motions were invariably of the most massy character, both in point of consistence as well as quantity, notwithstanding the extremely attenuated and wasted state of the child. This condition of matters continued unceasingly, with the abdominal paroxysms increasing in frequency and severity, notwithstanding large doses of opiates, until death happily terminated her earthly sufferings on the 16th inst.

The *post-mortem* appearances were as follows:—The body was externally wasted to a most extreme degree, with a dry, harsh, and scabrous condition of the entire integuments; the latter over the abdomen of a dark leaden colour, with considerable distension from flatus; internally the peritoneum inseparably adherent throughout to the abdominal parietes; the mesentery uniformly and thickly studded with enlarged glands, and darkened from congestion; the folds of the intestines had become strongly knitted together by adhesive inflammation throughout their whole course. At the sigmoid flexure of the colon, *a large perforating ulcer*, of the diameter of a shilling, was discovered; this portion of the bowel, with the rectum, was enormously distended with fæcal matter, of the character above noticed. Remarkable to relate, the whole superior course of the bowels was devoid of solid matter, but considerably inflated; the internal lining of the colon was studded with small circular ulcers; the liver of a dark carbonaceous colour, and greatly diminished in size; bladder empty and contracted.

It is my opinion that, owing to the distended state of the lower part of the colon and rectum, life was preserved and the fatal event protracted, from the strong mechanical occlusion of the morbid opening, by the indurated fæces, preventing thereby fæcal effusion into the abdominal cavity.—*Provincial Journal.*

ON THE MOVEMENTS OF THE WHOLE LARYNX.

BY M. L. A. LEGOND.

M. Legond, in terminating a memoir on this subject, arrives at the following conclusions.

1. The movement of the whole of the larynx adjusts the vocal tube to the different tones produced by the glottis; but, in certain circumstances, the inferior constrictor of the pharynx, which is the principal agent of this movement, may combine with the tensor muscles of the glottis, either in making the thyroidea angle more acute, or in aiding the movements of the cricoid upon the thyroid, by means of its lateral attachment to the first of these cartilages.
2. During *normal* vocalisation, we see the larynx ascend gradually in the successive production of tones, while passing from grave to acute; we see it, on the other hand, descend when they pass from acute to grave.
3. If during vocalisation, the performer uses *effort*, the larynx fixes itself immediately, and does not recover mobility until the effort ceases.
4. It is possible that the larynx may descend, in passing from any sound to a sound more acute, which is exactly opposite to what takes place in the normal state. This state presents itself when the larynx, producing, for instance, *do.*$_3$ without violence—passes suddenly, with effort to *fa.*$_3$ or *sol.*$_3$; the organ, obeying the depressor muscles, which tend to fix it vigorously, descends below the point at which it was placed during the natural production of *do.*$_3$—*Comptes Rendus.*

INFLUENCE OF CHOLERA IN CAUSING A VARIATION IN THE PROPORTION OF THE SEXES AT BIRTH.

BY DR. G. EMERSON.

In estimating the births in Philadelphia for the months of April and May, 1833, it was found that the males amounted to 532, and the females to 590, shewing a *female* excess of 58, or about 10 per cent. Now these months included a period nine months after the time when the cholera prevailed, namely, August and September, 1832. It must be borne in mind that the ordinary average excess of male births, ascertained by former calculations, amounts to about 7 per cent., so that the diminution of male conceptions during the cholera was at the rate of more than 17 per cent.

The effects of this epidemic upon the animal economy were not limited to those wrought through the disease alone, but included many strong, moral, and depressing influences exerted during most of the year, embracing the painful periods of anticipation and presence of the epidemic, with the secondary effects of the meagre diet generally adopted.

The amount of conceptions during six months subsequent to the commencement of the cholera, exhibit a preponderance of females.

	Males.	Females.
Thus, the conceptions in August, 1832, as shown by the births in April 1833, were	272	289
The conceptions in September 1832, by the births of May 1833, were	260	304
„ „ October 1832, „ June 1843, „	285	283
„ „ November 1832, „ July 1833, „	304	296
„ „ December 1832, „ Aug. 1833, „	361	330
„ „ January 1833, „ Sept. 1833, „	334	352
	1826	1851

It is proper to state that a slight visitation of epidemic cholera occurred in 1834, chiefly in the month of October, and that the returns of births which took place in June 1835, show a considerable falling off in the male births, which, instead of 7, amounted to only about 4 per cent. To all who have a distinct recollection of the two occurrences, it must be well known, that the solicitude and other depressing agencies operated in a trifling degree, compared with what they did in the first visitation.

In looking abroad to see whether any corroboration of the casual observation made in Philadelphia was furnished by other places where cholera had prevailed, in the absence of the necessary data in our own country, we appealed to the ample and accurate records of Paris, where, as is well known, the malignant cholera committed great ravages in 1832. Here we found, in a mass of no less than 33,367 births, a similar reduction in the proportion of the males, discovered in the Philadelphia reports.—*American Journal of Med. Sciences,* July 1848.

BIRTHS & DEATHS IN THE METROPOLIS

During the week ending Saturday, Sept. 30.

Births.		Deaths.		*Av. of 5 Sum.*	
Males....	680	Males....	669	Males....	495
Females..	547	Females..	588	Females..	477
	1227		1257		972

Causes of Death.		Av. of 5 Sum.
All Causes	1257	972
Specified Causes	1251	968
1. *Zymotic* (or Epidemic, Endemic, Contagious) *Diseases*	395	257
Sporadic Diseases, viz.—		
2. Dropsy, Cancer, &c. of uncertain seat	54	45
3. Brain, Spinal Marrow, Nerves, and Senses	135	120
4. Lungs and other Organs of Respiration	120	80
5. Heart and Bloodvessels	43	28
6. Stomach, Liver, and other Organs of Digestion	68	79
7. Diseases of the Kidneys, &c.	8	6
8. Childbirth, Diseases of the Uterus, &c.	8	10
9. Rheumatism, Diseases of the Bones, Joints, &c.	8	7
10. Skin, Cellular Tissue, &c.	1	1
11. Old Age	28	50
12. Violence, Privation, Cold, and Intemperance	146	8

The following is a selection of the numbers of Deaths from the most important special causes:

Small-pox	30	Paralysis	19
Measles	15	Convulsions	46
Scarlatina	154	Bronchitis	39
Hooping-cough	26	Pneumonia	51
Diarrhœa	44	Phthisis	100
Cholera	4	Dis. of Lungs, &c.	19
Typhus	69	Teething	7
Dropsy	22	Dis. Stomach, &c.	7
Sudden deaths	49	Dis. of Liver, &c.	12
Hydrocephalus	25	Childbirth	1
Apoplexy	35	Dis. of Uterus, &c.	4

Remarks.—The total number of deaths was 285 above the weekly summer average (see page 585.)

METEOROLOGICAL SUMMARY.

Mean Height of Barometer			29·47
" " Thermometer[a]			56·7
Self-registering do.[b]	max.	66·4 min.	44·5
" in the Thames water	—	58·5 —	57·

[a] From 12 observations daily. [b] Sun.

Rain, in inches, 1·69: sum of the daily observations taken at 9 o'clock.

Meteorological.—The mean temperature of the week was about 1° below the mean of the month.

BOOKS & PERIODICALS RECEIVED

DURING THE WEEK.

Pharmacopœia ad usum nosocomii phthisicorum et pectoris morbis ægrotantium accomodata.

Pharmaceutical Journal. Oct. 1.

Hints on the probable Approach of Cholera. By T. M. Greenhow, F.R.C.S.E. &c.

Plain Directions for the Prevention and Treatment of Cholera. By T. Allen, M.R.C.S.E. &c.

Casper's Wochenschrift. No. 37, Sept. 9.

Journal de Pharmacie et de Chimie. Sept. 1848.

Journal de Chimie Médicale. Sept. 1848.

The Edinburgh Medical and Surgical Journal. Oct. 1848.

The Veterinary Record. Oct. 1848.

London, Edinburgh, and Dublin Philosophical Magazine. Oct. 1848.

Ethnological Journal. Oct. 1848.

The British and Foreign Medico-Chirurgical Review. Nov. IV. Oct. 1848.

Edinburgh Monthly Journal. Oct. 1848.

Lectures on the Diseases of Infancy and Childhood. By Charles West, M.D.

Gay on *Femoral Rupture*.

Dr. Boggie on Hospital Gangrene.

Bulletin générale de Thérapeutique Médicale et Chirurgicale.

A Letter to Lord Morpeth. Is Cholera contagious or not? By William Reid, M.D.

Water-Cure Journal. No. 15, October.

NOTICES TO CORRESPONDENTS.

The communications of several correspondents have been unavoidably postponed.

Mr. Perry Dicken's letter next week.

Dr. Haden's Notes on a Fatal Case of Algide Cholera will be inserted.

Mr. Swan's paper will be inserted in the following number if possible.

Received.—Dr. S. W. Merriman—Mr. Gay.

Erratum.—In our last number, p. 535, col. 1, l. 30, *for* "falling" *read* "galling."

THE GENERAL INDEX.

We have to announce to our Subscribers that a General Index to the *first* 40 *Volumes* of the London Medical Gazette will, it is calculated, form a large Volume of about 700 pages. The cost of the Index Volume, respecting which many inquiries have been made, will be Twenty-four Shillings; and it is proposed to commence it so soon as the Names of *Five Hundred Subscribers* have been obtained.—The printers, Messrs. Wilson and Ogilvy, 57, Skinner Street, will receive the Names of Subscribers.

London Medical Gazette.

Lectures.

COURSE OF SURGERY,

Delivered in the years 1846 and 1847,

BY BRANSBY B. COOPER, F.R.S.
Surgeon, and Lecturer on Surgery at Guy's Hospital.

LECTURE XXXIX.

HERNIA—CONTINUED.

Obturator hernia—characters of—difficulty of detection during life—usual course above the vessels. Ischiatic hernia—characters of—difficulty of detection—case. Perineal hernia—characters of—seldom forms external projection—most frequent in female—case. Opening the sac in strangulated hernia—operation—treatment. Precautions in returning intestine—wound of intestine—treatment. Difficulty in returning the intestine after the sac is opened. Omentum. Sphacelated—removal of dead part—symptoms of gangrene—treatment. Difficulty in returning the intestine in congenital bubonocele—cases. Strangulated hernia, complicated with hydrocele—case. Necessity for exploration—hernia not always relieved by reduction—case. Opening the cavity of the abdomen for exploration. Necessity for the early performance of the operation for strangulation. Strangulation within the abdomen—symptoms. Obstruction may exist either in large or small intestines—case.

Obturator hernia is the protrusion of any viscus through the foramen in the obturator ligament, which forms a passage for the obturator vessels. This opening, in its normal state, is very minute, and the tissue extremely inextensible; the hernial protrusion itself can, therefore, be but small. And, as it is very deeply seated on the upper part of the thigh, it is almost impossible that it can be discovered during life: indeed, I do not think that any case is on record in which this hernia has been discovered before the death of the patient. It consequently becomes a question as to the course the surgeon ought to adopt when the symptoms of hernia remain unsubdued by the application of the usual remedies, while at the same time no external tumor can be found to indicate the seat of the constriction. Even if upon a very strict examination of the seat of obturator hernia, a tenderness or any other circumstance should induce the supposition that the protrusion has taken place at this point, the only means of obtaining the proof of this condition would be exploration, and this would be almost as dangerous as opening the abdomen; but in an extreme case I think the surgeon ought to decide promptly upon doing either one or other to afford the patient the only chance of his life. The coverings of an obturator hernia consist only, strictly speaking, of peritoneum and internal abdominal fascia, for the skin and muscles of the thigh cannot be correctly considered as forming any part of the covering of this hernia. My colleague, Mr. Hilton, lately discovered an obturator hernia in a subject in the dissecting room: the protrusion was found to have passed into the sheath of the obturator vessels, but above them, as is invariably the case in this description of hernia.

Ischiatic hernia is the protrusion of a viscus through the ischiatic notch, below the pyriform muscle; accompanying, therefore, the great sciatic nerve. I believe there is no case known in which such a hernia has been detected during life; but Sir Astley Cooper describes that in the dissection of a subject who had died of a strangulated hernia of seven days' standing, he discovered a portion of intestine behind the gluteus maximus muscle, strangulated at the point of its exit from the ischiatic notch: this hernia, therefore, resembles in one respect the obturator hernia just described—viz., in being equally difficult of detection. A tumor of any kind situated in this region is very likely to be mistaken for a hernia, as it might be capable of both dilatation and motion in the act of coughing; indeed, the presence of such a tumor, attended by interruption to the functions of the bowels, might lead to great complication and difficulty in the diagnosis. The late Dr. Lubbock, of Norwich, was consulted by a patient who had a large deep-seated tumor in the gluteal region. After examination Dr. Lubbock determined upon removing the tumor, and proceeded to the operation; but, on making the first incision, he found that the cries of the patient created such an influence upon the tumor, that he was induced to take it for hernia, and therefore immediately closed the wound. About a year afterwards I removed this identical tumor, and then found that it was a steatoma, firmly fixed to both sacro-sciatic ligaments, and projecting partly into the ischiatic notch, which was sufficient to account for the effect produced in it during the act of coughing. If a hernia protrudes through the ischiatic notch, it could not be discovered externally during life, and the only plan of proceeding would therefore be by exploration, as in cases of obturator and internal hernia.

Perineal hernia.—This kind of hernia does not often form sufficient external projection

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to produce a tumor, and rarely becomes strangulated; but it interferes with the functions of the rectum and vagina. Some mechanical arrangement is therefore required to diminish this inconvenience, and the pessary or bandages are generally found effective. I have myself, however, no experience of this hernia, and believe, that as it most frequently occurs in the female, it generally falls under the care of the obstetric practitioner. Perineal hernia may, however, occur in the male subject, when the intestines would be placed in the pouch of peritoneum between the rectum and urinary bladder, and protruding downwards into the perineum would there form a hernial tumor, but still this might not produce sufficient external tumor to be detectable in the living subject. Sir A. Cooper states in his work on hernia, that he had once an opportunity of dissecting such a case, and found the hernia placed between the anus and the prostate gland. In that case the perineum externally presented a slight abnormal convexity, but not a distinct tumor. I believe that under symptoms of strangulated intestine, concomitant with perineal tumors, the perineum should be opened to seek for hernia, in preference to proceeding to abdominal exploration, as in this case the hernia would not be so easily reached. Should it, however, happen, by any possibility, that either perineal or ischiatic hernia be detected during life, and effectual means employed to reduce them, bandages and compresses should be applied to prevent the liability to their recurrence.

In speaking of the operation for strangulated hernia, I have hitherto dwelt chiefly upon the division of the stricture external to the peritoneal sac, my object being to impress strongly upon your minds the advisability of always attempting that method of procedure; but this may not always be possible, and I have now therefore to describe the circumstances under which the opening of the sac itself becomes imperative, and the difficulties that may at the same time present themselves. When after the division of the stricture, the hernia still remains irreducible, it shews that the contents have undergone some change, which tends to maintain them in their abnormal situation. To overcome this obstacle to the reduction of the hernia, the sac must be laid open: this operation requires very great caution, for it not unfrequently happens that there are adhesions between the sac and its contents. When the opening is made, the omentum is generally first seen; but should intestine lie in front, it is judicious to cover it with omentum, so that in passing the finger or director upwards towards the neck of the sac, the intestine is not so much exposed to physical injury. If there be any obstruction to the passage of the finger through the neck of the sac into the cavity of the abdomen, it is evident that the stricture has produced a thickening or constriction of the sac itself; this might indeed have gone on to such an extent as to require division by the knife, which in that case should be passed upwards into the abdomen, guarded by the finger or with the director. In this operation there is great danger in the liability to wound the intestine in passing the knife through the constricted part of the sac. To avoid this, I invented a knife, the cutting edge of which is protected by a slide, so that it may be passed with safety through the constricted neck of the sac, and then being exposed by withdrawing the guard, the stricture may be divided without the least danger to the intestine.

When the constriction in the neck of the sac is overcome, it must be ascertained whether the protruded bowel is in a fit condition to be returned into the cavity of the abdomen; if it be of a dark mulberry colour, and does not change its appearance when the constriction is removed, the blood in its vessels must have become coagulated, and death of the part consequently supervened; if this be the case, it will also usually be found that the intestine has lost its natural elasticity, and pits upon pressure. If a bowel were in such a state, it would clearly be unfit to be returned into the abdomen, but at the same time I should hesitate before I laid it open, and should apply warm fomentations or a slight poultice, in the hope that restoration may be effected. Should, however, this hope prove abortive, the bowel must of necessity be opened, and an artificial anus established. In any case in which there existed the slightest hope that the bowel still admitted of restoration, and that the blood in its vessels remained fluid, I should return it to the abdomen, as the restorative process is much more likely to proceed when it is in its natural cavity, than if it remained in the hernial sac; and even should it subsequently sphacelate, adhesive inflammation would be set up from within, and preclude the liability of extravasation of the contents of the intestine into the peritoneal cavity. In returning an intestine under these circumstances, care should be taken that it is merely placed at the mouth of the neck of the sac, so that if extravasation should occur, the effused matter may be at once propelled through that outlet. Should it happen in the division of a stricture that the intestine be wounded, notwithstanding every precaution, the edges of the wound should be taken up by the point of a pair of forceps, and a silk ligature passed round the small portion thus taken up; the silk will soon be covered by plastic matter, thrown out from the peritoneal coat, while the inflammatory action produces ulceration through the mucous membrane, and the silk is discharged by the intestinal canal. Sir A. Cooper mentions two or three cases where recovery was complete under this mode of treatment. If, however, the opening into the bowel be of any extent, it would not be safe thus to include the whole of it in a ligature, as by doing so the calibre of the injured intestine would be very much diminished. When the wound is therefore too large to be thus secured by ligature, it should be closed by means of the uninterrupted suture; but I should in that case recommend that the intestine be not returned into the abdomen, but either that it be left in the sac or confined by a stitch to the mouth of the opening, for should any portion of the suture give way before the wound is covered by the action of the adhesive inflammation, extravasation into the abdominal cavity, and consequent death of the patient, would be inevitable.

Some difficulty occasionally occurs in returning the intestine into the abdomen, even after the sac is opened, owing to adhesion having taken place between it and the sac, or between the intestine and omentum, or perhaps both: when this is the case the adhesions must be carefully separated before the bowel can be returned. Returning the intestine and omentum together should always be avoided, as their adhesion to each other may prevent the bowel, even after it is returned, from being capable of performing its natural function. The condition of the omentum is as much a matter for the consideration of the surgeon as that of the intestine itself; for by inflammation, the former, which is naturally a delicate and attenuated membrane, may be converted into a solid mass, totally unfitted to be returned into the abdomen. It then becomes a question whether the portion thus altered should be removed or left in the hernial sac: I am an advocate for leaving it in the sac, for if it be removed by incision it will be necessary to apply a ligature to stop the bleeding from the divided vessels, and that process is very liable to produce peritoneal inflammation; a further advantage is also derived from leaving the omentum in the sac, as it sometimes becomes adherent to the aperture through which it had passed, and thus prevents the future descent either of omentum or intestine. Should the omentum have become sphacelated, the dead part may be removed with safety, provided due care be taken to avoid the division of the vessels of the neighbouring living portion. It sometimes happens that when living omentum has been left in a hernial sac, it will afterwards pass into a state of sphacelus, even although the external ring may have entirely united. This change is marked by a train of symptoms that clearly indicate the alteration which is taking place in the omentum; for notwithstanding that the bowels continue to perform their natural office, the constitutional powers of the patient become suddenly depressed, the pulse feeble and irregular, often attended by hiccup; and the wound, which had healed, again opens, and a fœtid odour is emitted from its surface: poultices should be immediately applied to the part, the sloughing omentum removed, and chloride of lime, or a weak solution of chloride of zinc, employed to destroy the fœtor and assist in the separation of the dead part. Tonics must also be administered, and if there be any tendency to sickness, carbonate of ammonia, in a state of effervescence, and combined with some narcotic, may be given.

A difficulty sometimes occurs in congenital bubonocele in returning the intestine into the cavity of the abdomen, in consequence of the testicle on the same side not having descended into the scrotum, occupying, in fact, the opening in the vaginal canal through which the intestine has to be pushed back. I remember in operating, many years ago, for a strangulated bubonocele, meeting with great difficulty in returning the intestine into the abdomen, although I had freely divided the stricture; indeed, the manipulation was so much protracted that I had some fear for the life of my patient: he speedily recovered, however, without any bad symptoms. Before commencing the operation for hernia it is wise always to ascertain whether the testicles have descended into the scrotum, as their absence from their natural situation would prepare you for the many difficulties which their abnormal position may give rise to during the operation. I was once present at an operation for strangulated hernia, where the surgeon, finding a second protrusion in the inguinal canal, persisted for some time in attempting to push it back into the abdomen; but at length he found that it was an undescended testicle, and that he had already returned the whole of the hernia.

The operation for strangulated hernia may be complicated by the co-existence of a hydrocele: and in a case in which you may have carefully dissected down to the tumor, an escape of fluid, and the sudden disappearance of the swelling, may lead to the supposition that a hydrocele had been mistaken for a hernia; such a conclusion ought not, however, to prevent your further investigation, but the finger should be passed upwards to the ring to examine if there be not some other tumor; as it may occur that a hernia, in a distant peritoneal sac, may be placed in front of the tunica vaginalis, or may, indeed, have passed down into it: in either case the hernia, unless it were liberated, would lead to the destruction of life. A lady consulted Mr. Crosse, of Norwich, being the subject of a swelling in the right inguinal region, and suffering at the same time from all the symptoms of hernia; which would not yield to the usual remedies, nor could the tumor be reduced. Mr. Martineau was called in consultation, and the operation for strangulated hernia was determined upon: on opening the membranous covering to the tumor by careful dissection, a quantity of fluid made its escape, which satisfied the mind of Mr. Crosse that the swelling was not a hernia, and therefore he desisted from further exploration. Mr. Martineau, however, strongly recommended him to continue his search; he would not, however, consent to do so, and the patient died without any abatement of the symptoms. On a post-mortem examination it was found that a hernia existed at the internal ring, within the peritoneal covering of the round ligament, which had also contained the water that had been evacuated, constituting a hydrocele of the round ligament, complicated with hernia—a very rare disease. There can be no doubt that further exploration should have been made in this case, as the liberation of the strangulated intestine would have offered a fair chance of this patient's recovery.

As I have already stated in a former lecture, varicocele, abscesses, or indeed tumors of any kind, in the situations of herniæ, may be mistaken for those protrusions, especially when disturbance to the natural funtions of the intestinal canal is concomitant with them. Should these symptoms prove insuperable, however dissimilar the physical conditions of the tumor may be to hernia, a minute exploration should be made, in order to establish beyond question, either its being connected with or independent of any abdominal viscus.

I have already alluded to the fact that the reduction of a hernia by the application of the taxis does not invariably relieve the symptoms; for if the sac be pushed back into the cavity of the abdomen, with the protruded viscus still contained within it, the only change which has taken place is the conversion of an external into an internal hernia, the symptoms remaining unmitigated. I attended a case with Mr. Fred. Toulmin, of Hackney, in which the patient was the subject of a reducible hernia in both inguinal regions, and suffering from symptoms of strangulation. We returned the protrusion on the right side with the greatest ease; but on the left side some thickening still remained in the inguinal canal, even after the reduction of the hernia seemed to be completed, and therefore it was determined that an exploration should be made to ascertain the cause of this abnormal condition. The result led to the discovery of a small portion of healthy omentum within the hernial sac, but it was easily returned into the cavity of the abdomen, without the necessity for dividing the internal ring; and although we had no reason to believe that this portion of omentum could have produced the urgent symptoms of strangulated hernia, as there was no other tumor in the right inguinal region, we could not proceed to any further exploration. The symptoms, however, remained; indeed, their urgency increased, and the next day the patient died.

On a post-mortem examination being made, it was found that the left hernia upon which we had operated, presented what we had already discovered in the operation, but on the right side the nature of the case became perfectly explained by the existence of a double protrusion, the posterior position of which was the reducible hernia, the sac still remaining in the inguinal canal and scrotum; but within the abdomen was found a second hernia enveloped in its sac, and still strangulated by it; and which no doubt had been returned "en bloc" by the application of the taxis.

I have published a full description of this case in the 4th vol. of Guy's Hospital Reports. A question is here involved, as to whether means should have been taken to reproduce the descent of the hernia by exciting the patient to cough while in the erect posture; and if the attempt had succeeded, whether an operation ought not to have been performed, for the full investigation of the condition of the tumor: this might also have been effected by opening the abdomen, and making the examination from within; but the case was rendered doubly complicated by the existence of a hernia on the opposite side, giving the idea that the obstruction was more likely to be external than internal to the cavity.

The circumstances under which the cavity of the abdomen may be laid open to seek for an internal mechanical cause of obstruction to a bowel, may be considered as a matter still sub-judice; but when we consider the danger inseparable from the operation of laying open the abdominal cavity, especially with an inflamed peritoneum, we shall perceive that it should be only had recourse to as a last resource, although it is quite clear, at the same time, that the chance of success must be diminished in proportion to the delay; yet the surgeon is further justified in procrastinating such an operation, as many cases apparently reduced to the last extremity have recovered under nature's own reparative efforts. It is also a matter of uncertainty whether, upon laying open the abdomen, you may succeed in discovering the seat and cause of obstruction; for, in consequence of the distension of the bowels, and the adhesions resulting from the inflammation; the manipulations necessary to separate these adhesions, so that the surgeon may arrive at the object of his search, in itself would be sufficient to aggravate the symptoms to a degree likely to prove rapidly destructive to life. When abdominal exploration is determined on, I believe that the linea alba ought to be the point chosen for the performance of the operation; for, although the locality of the symptoms may lead the surgeon to guess at the precise point at which the obstruction is situated, still, as you avoid the necessity for the division of muscular fibre, and the liability to hæmorrhage, as well as deriving the advantage to be obtained from the accurate knowledge of the relative position of the subjacent parts, acquired by commencing the operation from one precise point, this region is the most appropriate for the operation.

When obstructions occur to the large intestines, as from stricture in the rectum, or in the sigmoid flexure of the colon, the operation necessary for the relief of the patient is the formation of an artificial anus. This is to be effected by opening the colon in the posterior lumbar region, as has already been described, deviating in this case from the practice recommended in the exploration, where the point of obstruction is doubtful. The well-marked symptoms and history of the case, will, however, preclude any difficulty in forming a just diagnosis.

In concluding the subject of hernia, I ought, perhaps, to remark to you, gentlemen, that the result of operation, in case of strangulation or obstruction in irreducible hernia, is not by any means so successful as the pathological considerations connected with the malady would lead us to expect. In a great measure I believe this want of success to be attributable, firstly, to the delay on the part of the patient in seeking surgical relief; and, secondly, to the violence which is so frequently employed in the attempt to reduce the hernia prior to proceeding to the operation. It is a matter, therefore, of the greatest importance, that before the taxis be attempted, the patient should be so prepared by constitutional remedies, and local applications and position, that the least effectual degree of force only need be employed to return the protruded part. The amount of force which may be safely used it is impossible to describe, as it varies in every case, and can only be learned from an accurate knowledge of the part involved: it also depends upon the conditions of those parts, and the constitutional peculiarities of the patient. Such circumstances can only be appreciated by the experience gained from a long practical acquaintance with the subject. When the attempt at reduction of the hernia has failed, and all the force it is considered prudent to adopt has been employed, the operation should be resorted to without further delay,—as by procrastination, such conditions are likely to supervene in the contents of the hernia as either to produce adhesion to the sac, or to render them unfitted to be returned into the abdomen. Either of these conditions would lead to the necessity for laying open the hernial sac—an operation which so much enhances the danger that delay in the early division of the stricture ought always to be avoided.

Strangulation of the bowels within the abdomen—Internal hernia.

Such an occurrence offers, perhaps, the greatest difficulty with which a surgeon has to contend. The symptoms commence with little to alarm the patient. Slight uneasiness in the bowels, and irregularity in their function, alone mark the deviation from health, and gentle purgative medicine is taken by the patient's own judgment, or if under the advice of a surgeon, it is prescribed often without a suspicion of any threatening danger. The medicine probably fails in producing its desired effect: the uneasiness in the bowels increases; the abdomen becomes somewhat distended; nausea supervenes; and the constipation remains unrelieved. The patient now becomes anxious, and the medical attendant is consulted in good earnest. Another kind of purgative is prescribed, probably a warm-bath ordered, and enemata administered; but even as yet no alarm may be in any way excited. But still the bowels may remain unmoved, and the distension and sickness increase, but the patient is calmed of his apprehension by the assurance of the surgeon that three or four days' constipation is a matter of frequent occurrence, and generally unattended by danger. The next symptom is probably a fixed pain at one particular point within the abdominal cavity, and the patient attributes to that spot the "error loci:" leeches are now ordered, and the warm-bath also repeated. Calomel and opium are prescribed: and if the patient be of a plethoric habit, probably a small quantity of blood is abstracted from the arm, and a saline effervescent draught ordered to be taken every three or four hours, until the bowels be opened.

This desired result may not, however, occur: the vomiting now becomes more and more urgent, and the matter ejected is probably stercoraceous. If such be the case, and the vomiting be the most urgent symptom, and the odour of the ejected contents of the stomach fœtid, a diagnosis may, in my opinion, at once be formed, that the obstruction is seated in the small intestines; for when the larger bowels are subjected to obstruction, sickness does not occur until towards the approaching sequel of the disease—not until, in fact, the colon becomes so distended between the point of obstrucless rapidity; so also do solutions of soda, lime, and baryta.

The action of various salts has been noted by numerous observers, amongst whom we may especially mention Müller, Schultz, Hünefield, Magendie, and Simon. The alkaline and earthy salts, as, for instance, chloride of sodium, sulphate of magnesia, phosphate of soda, &c., appear to exert no definite chemical action: when these solutions are denser than serum they cause a shrivelling and irregularity in the form of the corpuscles.

Some of the metallic salts exert a strong chemical action on the corpuscles: thus, nitrate of silver causes their rapid disintegration. It would be unprofitable to enter at any length into the history of this class of experiments, for the following reasons:—firstly, in consequence of the difficulty of distinguishing between the results of purely physical action (endosmosis) and purely chemical action; and secondly, because, although it would be of the highest importance in a therapeutical point of view to recognise the chemical action of the various medicinal salts, &c. on the elements of the blood, we cannot establish corresponding relations under our microscopes, and we should argue from false premises if we rashly attempted to draw any practical conclusions from them. Such experiments may be regarded as suggestive, but nothing further. The blood in the living body differs from the blood under the microscope: in the latter there are alternations of temperature, and changes dependent on evaporation and on free exposure to the air, from which the former is protected. How, also, can we estimate, with any degree of precision, the degree of dilution which some of these salts must undergo before they can enter the blood? Let us take, for instance, a salt I have referred to—nitrate of silver. I have told you that this salt (in the proportion of one to twenty of water) causes a rapid disintegration of the corpuscles. But this fact, observed under the microscope, does not in any degree elucidate the medicinal action of the salt. For, in the first place, it is decomposed by the alkaline chlorides of the gastric juice, and converted into an insoluble chloride of silver, which we should, *à priori*, assume could not be absorbed; and secondly, our assumption is proved to be apparently correct by the circumstance that the most delicate and skilful analysis fails to detect a trace of silver in the blood.

But, that our reasoning and our chemistry are alike imperfect, is sufficiently attested by the unhappy, slate-coloured faces you must, most of you, have witnessed about our hospitals and dispensaries—wretched victims of epilepsy and nitrate of silver.

You are perfectly aware that when the great excreting organs—the kidneys, liver, and lungs—cease to discharge their functions, the blood speedily becomes poisoned by the retention of effete matters, and death rapidly ensues. We may regard urea, bilin, and carbonic acid, as the types of the products of these three organs; and it is worthy of remark that all these substances act with energy on the corpuscles.

Urea slowly dissolves the corpuscles, which usually assumes an irregular form before they vanish. The irregular appearance of the corpuscles, so often seen in Bright's disease, is probably in part dependent on this cause, and in part on the diminished specific gravity of the fluid portion of the blood.

The effects of bilin on the corpuscles have been observed by Hünefeld and Simon. The latter writer makes the following observations on this subject:—

"I can also confirm Hünefeld's observation respecting the influence of bile on the blood. On the addition of fresh bile, the blood immediately becomes clear, and the corpuscles disappear. In consequence of the viscidity of ordinary bile I experimented with pure bilin. Upon the addition of a little partially dried bilin to the blood of man, the calf, the tench, or the frog, the fluid becomes, after a little stirring, thick, almost gelatinous, capable of being drawn out in threads, and no corpuscles can be seen in it. If a minute drop of frog's blood, in which the corpuscles have been thus dissolved, be brought in contact, and suffered to mix with, a fresh drop of blood from the same animal, an interesting microscopic object is afforded. After the first intense action is over, the corpuscles are seen to move about slowly, or to be in a state of rest, and gradually to disappear. The solution of the capsule (not of the nucleus) occurs so instantaneously that the eye cannot trace the reaction. . . . . . In those instances in which the corpuscles resisted the solvent power of the bilin for a considerable time (possibly in consequence of the reagent being applied in too dilute a state), they often assumed very peculiar forms: appearing as if they were twisted and extended longitudinally in one direction, or variously coloured in the interior."

Now, taking Bright's disease as that of all others in which an excess of urea is most commonly present in the blood, and jaundice as that in which an excess of biliary constituents is present, it is worthy of remark that in these two affections there is a diminution in the amount of blood-corpuscles. "The most remarkable character of the blood in the advanced stage [of Bright's disease] is the great decrease of blood-corpuscles, which frequently amount to only one-third of the normal proportion." (Simon's *Animal Chemistry*, vol. i. p. 322.) In reference to the blood in jaundice, the same author observes that "the researches of Denis and Lecanu give, to a certain degree, similar results [with his own]: they show a decrease of the blood-corpuscles." (Op. cit. p. 331.)

Do not suppose, that in noticing the coexistence of the presence of an excess of urea or bilin, and a deficiency of blood-corpuscles, I mean to infer that the diminution of the latter is altogether or even principally dependent on the presence and chemical action of the former. But, although there are other causes for the deficiency of the corpuscles in these cases, we are justified, from the experiments I have mentioned, in concluding, that the retained excretions must have a share in effecting this alteration.

The only physiologist who has made trustworthy observations on the effect of carbonic acid and other gases on the corpuscles, is Harless.* Carbonic acid causes the blood-corpuscles to swell and become perfectly transparent, while oxygen diminishes them, and causes them to assume a finely granular appearance. The alternating action of these gases on the same corpuscles may be kept up for eight or ten times; the experiment then terminating in the solution of the corpuscles. Nitrogen seems from his experiments to exert no action on them.

The effects noticed by Harless are most probably dependent on exosmotic and endosmotic currents.

I will not detain you any further with the results of other experiments on the red corpuscles, but must for a few minutes beg of you to return with me to the consideration of the white or colourless corpuscles, of which we made mention in our last lecture.

I have already told you, that when seen in the living vessels they are mostly close to the walls. If, however, we examine a drop of recently drawn blood under the microscope, we find them scattered amongst the red corpuscles, from which they may be distinguished by their comparative absence of colour, by their granular appearance, and by their greater size. There is no fixed relation between the number of coloured and colourless corpuscles: the latter are most abundant after a meal. On an average, we may say that there is one colourless corpuscle to ten or twelve red ones.

Examined in perfectly recent blood, they appear as solid, and partially granular bodies, usually varying in diameter from $\frac{1}{2000}$th to $\frac{1}{1500}$th of an inch. When exposed for a few minutes (three to five) to the action of water, each corpuscle is observed to separate into a slightly granular roundish nucleus, and into a very delicate structureless capsule. Sometimes the action of water reveals the existence of two nuclei. The corpuscles in these instances must not be regarded as distinct or peculiar structures, but as merely immature forms in which the consolidation of the nucleus is not perfected.

We occasionally observe corpuscles considerably larger than those I have described, and exhibiting a more decidedly granular appearance. They usually present a well-marked nucleus, and are regarded by our best microscopists as highly developed lymph-corpuscles. They appear, however, only to exist in the blood, and not to be found in the lymph.

With regard to the chemical reaction of different agents on the colourless corpuscles, I may observe, that dilute acetic acid causes a rapid separation into nucleus and capsule; but while water usually leaves the nucleus unacted on, acetic acid causes its disintegration into two, three, or sometimes four parts. This reagent renders the capsule so pale that it often requires considerable management to detect its presence under the microscope. A dilute solution of caustic potash acts on the colourless in just the same way as the red corpuscles, rapidly dissolving both.

In all their chemical and microscopical relations, these corpuscles seem to be perfectly identical with the lymph-corpuscles noticed in our last lecture, and, as I then observed, must be regarded as cells in a comparatively early stage of development. In most respects, also, they approximate in their physical and chemical characters to pus-corpuscles; and I am convinced that this similarity has led many observers into error. I shall revert to this subject when speaking of pus in the blood.

I believe that I have now told you all that it is necessary for you to know regarding "the physical and microscopical characters of the blood, previously to its coagulation." There are other points connected with the corpuscles which will be briefly noticed when we arrive at "the general physiology of the blood;" as, for instance, the mode of formation of the corpuscles, both in the fœtus and the adult, and the relation between the red and the colourless corpuscles.

II. The process of coagulation next claims our attention. This change takes place, as a general rule, whenever the blood ceases to circulate through the vessels. It occurs, however, most rapidly, and the process is best observed, in blood abstracted from the living body.

In blood taken from a vein in the human subject, the coagulation usually occurs in from three to seven minutes, and proceeds in the following manner:—A membrane is observed to form on the surface of the blood; this is, however, merely the external manifestation of a change that the fibrin is undergoing throughout the whole mass of the fluid. The fibrin, liquid in the living blood, and the most highly organized constituent of that fluid, removed from the vitalizing influences to which it had been continuously exposed, undergoes a change expressive of the death of the blood. It gradually solidifies in delicate fibrils, forming a minute net-work, which, as it contracts, entangles the corpuscles, and gradually expels almost the whole of the serum or non-coagulable fluid. The clot thus formed is at first soft and gelatinous, but gradually becomes firmer as the contraction of the fibrinous net-work advances, and ultimately appears as a red, solid mass, floating in the clear yellow serum.

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* Monographie über den Einfluss der Gase auf die Form der Blut-körperchen von Rana temporaria. Erlangen, 1846.

These are the ordinary changes undergone by blood on its abstraction from the living body.

There are, however, certain pathological conditions under which it would seem that the blood cannot perfectly hold the corpuscles in suspension. The corpuscles then sink to a greater or less degree from the upper surface of the blood, leaving a supernatant layer of clear yellow *plasma*, or *liquor sanguinis* (serum + fibrin in solution). The fibrin in this clear *plasma* undergoes the change I have already mentioned; but, as there are no red corpuscles to be entangled in its meshes, the clot becomes invested superiorly with a whitish or slightly yellow coating. This peculiarity is most common in inflammatory diseases (although it is by no means confined to them), and hence some of the earlier writers termed the appearance I have described as the *crusta inflammatoria*. It is now commonly known as the *buffy coat*. The investigations of Mulder lead to the belief that in most of the cases where the buffy coat occurs there is an excess of oxyprotein in the blood, and that it is this compound, rather than actual fibrin, that forms its chief constituent. It is likewise found to contain fat and colourless blood-corpuscles.

There are, again, other pathological states in which the blood contains either mere traces of fibrin, or else that constituent in a very imperfectly elaborated condition. In these cases no regular clot is formed, and we merely observe the separation of a few dark gelatiniform flocculi.

These peculiarities will be further noticed in the consideration of the morbid conditions of the blood under which they occur.

Numerous experiments have been instituted with the view of ascertaining the effects produced by various agents in accelerating and retarding the coagulation of the blood; and many of the agents thus tried have been found to exert a very decided effect, especially in the retardation, or even the prevention, of coagulation.

It must, however, be borne in mind that blood, when hindered from coagulating by these means, is in a very different condition from that in which it previously existed and circulated in the body; the fibrin, and probably some of the other elements of the blood, having undergone important chemical changes altogether unfitting them for the functions they have to discharge in the living being. For my own part, I regard these experiments as of little practical therapeutic value: at the most, as I have already remarked in reference to the action of reagents on the corpuscles, they should be merely suggestive. If you desire to make yourselves acquainted with the experiments that have been made on this subject, and the discordant results that have been obtained, I may refer you to Magendie's *Leçons sur le Sang*; to Mr. Ancell's seventh lecture "*On the Physiology and Pathology of the Blood*," in the Lancet for 1840; and to Nasse's article "*Blut*," in Wagner's *Handwörterbuch der Physiologie*.

III. Numerous analyses of healthy venous blood have been instituted during late years. Those of Lecanu, Denis, Simon, Nasse, and Becquerel and Rodier, are regarded as amongst the most accurate, and I believe that the discrepancies existing between them are merely those which must naturally arise from the differences in the methods of analysis pursued by these chemists. I believe it to be utterly impossible to determine a formula for the composition of healthy blood that would serve as a standard by comparison with which we might detect absolute deviations in other forms and specimens of blood; for not only may we conceive that there are changes in the blood of the same individual at different times of the day, according to the amount of pabulum poured into the circulating system, and that different methods of life and various modes of nourishment would cause such changes, but we know by actual analysis that sex, age, and temperament, do impress peculiar changes on it.

All, then, that we can venture to do is to give the *maxima*, *mean*, and *minima* values of the different constituents of healthy blood, and, in order that they may be at all trustworthy, they should be deduced from a large number of analyses.

The following table is drawn up by Becquerel and Rodier, from the analyses of the blood of eleven men, all of whom were considered to be in perfect health, and varying in age from 21 to 56 years:—

	Mean.	Maxima.	Minima.
Density of defibrinated blood	1060·2	1062·0	1058·0
Density of serum	1028·0	1030·0	1027·0
Water	799·0	800·0	760·0
Solid constituents	201·0	240·0	200·0
Fibrin	2·2	3·5	1·5
Fat	3·2	6·6	2·0
Albumen	69·4	73·0	62·0
Blood-corpuscles	141·1	152·0	131·0
Extractive matters and salts	6·8	8·0	5·0
1000 parts of incinerated blood contained—			
Chloride of sodium	3·10	4·20	2·30
Other soluble salts	2·50	3·20	2·00
Earthy phosphates	0·33	0·70	0·22
Iron	0·56	0·63	0·51

The composition of the blood of the healthy female, as deduced from eight analyses, is given in the following table:—

	Mean.	Maxima.	Minima.
Density of defibrinated blood	1057·5	1060·0	1054·0
Density of serum	1027·4	1030·0	1026·0
Water	791·1	813·3	773·0
Solid constituents	208·9	227·0	187·0
Fibrin	2·2	2·5	1·8
Fat	2·2	5·7	2·0
Albumen	70·5	75·5	65·0
Blood-corpuscles	127·2	137·5	113·0
Extractive matters and salts	7·4	8·5	6·2
1000 parts of incinerated blood contained—			
Chloride of sodium	3·90	4·00	3·50
Other soluble salts	2·90	3·00	2·50
Earthy phosphates	0·35	0·60	0·25
Iron	0·54	0·57	0·48

From these tables, Becquerel and Rodier maintain that the influence of sex is so great, especially in reference to the amount of water and of blood-corpuscles, that, in order to arrive at any correct conclusions respecting the deviations of morbid blood from the healthy standard, diseased male and female blood must be always contrasted with the respective male and female blood in a state of health.

HEREDITARY INSANITY.

Is mental disease transmitted more frequently from the mother than the father? This question, considered in its strictest sense, might show that insanity depends mostly upon conditions which are either limited to the mother or father exclusively; that it is connected with this or that system and organ; or, finally, that the influence of one or the other parent predominated in the act of procreation. We thus see how a question of this nature opens the way to a whole series of others, and how cautiously we ought to proceed in giving a decisive reply, lest we involve ourselves in a mass of hypotheses, in our attempt to explain the subject under consideration. Even Esquirol established the proposition that mental disease was more frequently transmitted from the mother than the father—an opinion that has continued in force, and has been very nearly considered as a settled fact by Baillarger. Another point, tolerably well attested by experience, and scarcely to be refuted on theoretical principles, has again been generally advanced—namely, that insanity is not so frequently transmitted to the offspring when it does not shew itself in one or the other parent until after the birth of the former, excepting where the disease is based on hereditary disposition, and appears to have been simply retarded in its manifestation. It would be very important to learn how far it is necessary to extend our investigations amongst the relatives of a patient, and through how many generations the disposition may be transmitted; but these are points into which statistical inquiries do not, and cannot, enter.—*From Dr. Forbes Winslow's Journal of Psychological Medicine.*

Original Communications.

ON

NARCOTISM BY THE INHALATION OF VAPOURS.

BY JOHN SNOW, M.D.
Vice-President of the Westminster Medical Society.

[Continued from page 416.]

Phenomena attending death from Chloroform.—Post-mortem appearances.—The fatal cases of inhalation of Chloroform.

IN my last communication it was shewn, that when an animal of warm blood is made to breathe the vapour of chloroform, well diluted with air, until death ensues, the heart continues to pulsate for some time after the respiration has ceased, the circulation being arrested, secondarily, by the failure of the breathing. It was also shewn, by some experiments on frogs, that chloroform has the effect of directly paralyzing the heart, when it is absorbed in a somewhat larger quantity than is required to stop the respiratory movements. It is possible, indeed, to narcotise the heart of warm-blooded animals by chloroform. When the vapour is exhibited to them in a concentrated form, the breathing and circulation appear to cease nearly together; probably, because the quantity of vapour in the lungs, at the time the breathing stops, is sufficient, when absorbed, and added to that already in the blood, to narcotise the heart. The two following experiments confirm this view.

EXP. 44.—120 grains of chloroform were put into a jar of the capacity of 600 cubic inches, which was kept accurately covered with a piece of plate-glass, and moved about to diffuse the chloroform over its sides. In a few minutes the chloroform was all converted into vapour. The temperature of the jar was 65°; the air in it was consequently nearly saturated with vapour, and contained 20 grains in each 100 cubic inches. A young rabbit was put into the jar. It was very quickly affected, and ceased to breathe in less than a minute. It was taken out immediately the respiration ceased, and the ear was applied to its chest, but no motion of the heart was audible. The thorax was opened as quickly as possible, and when the heart was first observed it was quite motionless; but it had not been exposed to the air for a minute, before it began to contract, the auricles beginning to move first, and shortly afterwards the ventricles,—and in three or four minutes it was contracting vigorously. This recommencement of the heart's action no doubt resulted from the evaporation of the chloroform from its surface, and the consequent liberation of the nerves there situated from the influence of the vapour. Soon after the chest had been opened, a drop of chloroform was allowed to fall on the heart, and its motion instantly ceased, but gradually commenced again in the course of a few minutes, and it continued to contract feebly for some time. The lungs, which collapsed as soon as the chest was opened, were, when first observed, of a vermilion tint. This colour of the lungs is an additional proof that the circulation had not continued after the respiration ceased. There was active vermicular motion of the intestines of the rabbit when they were exposed to the air, soon after death, and a drop of chloroform being put on the ileum at once stopped the contractions at the place of contact, whilst they continued as before in the rest of the intestine. The next morning the body of the rabbit was rigid, and the blood in the heart was coagulated. The right cavities were nearly full, and the left contained a small quantity of blood. The brain was quite healthy, its vessels not being congested.

EXP. 45.—Two fluid drachms of chloroform were put into the same jar, which was placed near the fire, and moved about till the liquid was all converted into vapour, when the air within was of the temperature of 75°, saturated with chloroform, and containing about 29 grains in each 100 cubic inches. A young rabbit was put in. It first attempted to escape, then gave a little cry, and sank down on its side, and was dead three quarters of a minute after its introduction. It was immediately removed, and the ear applied to its chest, but no sound could be heard. The thorax was opened directly, and the heart observed to be perfectly motionless; but it commenced to contract after its exposure, as in the former experiment, and in a few minutes was contracting vigorously. The rabbit was placed back again in the jar, in which the vapour was still retained, except a little that escaped during the momentary removal of the cover, and the heart became quickly affected from the absorption of the vapour by its moist surface. Its contractions became more and more feeble, and at the end of four minutes had entirely ceased, and could not be excited by pricking; yet they commenced again spontaneously about ten minutes after the removal of the rabbit from the jar, but were not so strong as before. The lungs of this rabbit were of a vermilion colour when the chest was opened, and the appearances on examination of the body next day were precisely the same as in the former experiment.

It has appeared to me that the respiration and circulation cease nearly together in those instances, also, in which an animal is slowly killed by the inhalation of vapour of chloroform of moderate strength. One experiment will suffice to relate in illustration of this.

Exp. 46.—A cat, which it was requisite to destroy, was placed in a jar holding 800 cubic inches, and a fluid drachm and a half of chloroform was put in, and the jar covered. The cat made efforts to escape for the first minute; it then became insensible, and was affected with spasmodic movements for about half a minute, after which it was quite motionless, and relaxed, and the breathing ceased about two minutes after the commencement of the experiment. It was taken out, and the stethoscope applied to the chest, and the sounds of the heart's action were distinctly heard. At this moment the breathing began again, and the cat was put back into the jar, from which, however, the greater part of the vapour had escaped. It remained insensible, and the breathing after a time became very feeble, except at intervals, when it was laborious. In little more than half an hour the animal died. It was taken out as soon as the respiration ceased, but no movement of the heart could be heard. Next day the body was very rigid, the right cavities of the heart and the two cavæ were full, but not greatly distended; the left cavities of the heart were nearly empty. All the blood was dark coloured and fluid. The lungs were collapsed and of a bright red colour. They were not congested.

Post-mortem appearances.

As might be expected from these investigations concerning the mode in which chloroform causes death, the post-mortem appearances resulting from it are neither constant nor striking. I have preserved brief notes of the examination of 14 animals killed by chloroform—3 cats, 3 rabbits, 2 guinea pigs, 4 small birds (chaffinches and larks), and 2 mice. In every instance the right cavities of the heart were more or less filled with blood, and in five cases out of the fourteen they were much distended. The left cavities of the heart contained a little blood in every instance in which their state is mentioned. The blood was fluid in one instance—that of the cat, related above. In the other instances it was coagulated—generally firmly, but in three or four cases only loosely. The lungs were quite free from congestion in ten of the animals, in the other four they were congested in patches. The head was examined in only eight instances, and in these the substance of the brain was free from congestion, and the sinuses were not particularly distended, except in two.

The fatal cases of inhalation of chloroform.

After seeing how rapidly the vapour of chloroform kills animals when it pervades to a certain extent the air they breathe, and when we recollect that it came all at once to be generally administered without any previous teaching on the subject in the schools, it ought not to surprise us, however much we are called on to deplore the circumstance, that a few cases have occurred, in different parts of the world, in which the exhibition of chloroform has been attended with fatal results; especially when we consider that the vapour has usually been so administered that its strength could not be controlled. Reflecting, indeed, on the mildness and uniformity of the action of the vapour on animals, when more diluted, as shown in some of the experiments related in the first part of these papers, we ought to feel confident that it is capable of being used with perfect safety, certainty, and precision; and this view of the subject agrees with my experience, which has extended now over a great number of cases.

I offered some remarks at the time respecting the fatal case that occurred near Newcastle.* The next case recorded is one at Cincinnati, U. S. in February last.† The remarks I made on the Newcastle case apply in a great measure to this. Although the chloroform was not administered on a handkerchief, the vapour seems to have been inhaled in too concentrated a form, as its effects were produced very rapidly. The patient inhaled from a glass globe, containing a sponge of considerable size saturated with chloroform. "Breathing at first slow; inhaled 12 or 15 times, occupying from a minute to 75 seconds," and some stumps of teeth were then immediately removed. Now, it takes three or four moderately deep inspirations, and as many expirations, to replace all the air contained at one time in the lungs. Consequently, the patient was made sufficiently insensible for the operation by the effect of about 8 to 12 inspirations, whilst the chloroform of 3 or 4 inspirations more was in the lungs, waiting to be absorbed and increase the effect. I am aware that part of this would be expired again unabsorbed as the patient continued to breathe, but that is equally true of what was inhaled at the previous inspirations; so the fact remains, that the patient must have had from one-third to one-half more chloroform than was necessary to produce what was deemed sufficient insensibility. And according to what I have observed, insensibility to pain cannot be obtained in a very rapid manner without considerable narcotism of the nervous centres—the third or fourth degree: therefore, that the patient should be in a dying state a few moments after the inhalation was discontinued, was only what might have been expected. The female friends of the patient considered that she died about two minutes after the commencement of the inhalation; and although the dentists who administered the chloroform thought that the patient lived a few minutes longer, yet, even according to their account, she was during this time in a dying condition. According to Mrs. Pearson's account, which is clear and precise, the pulse became feeble and then stopped, and the breathing ceased about the same time. This agrees with what is stated above respecting the phenomena of death when rapidly caused by chloroform, and with what was observed in the rabbits in experiments 44 and 45.

On inspecting the body, the brain was found to be in a normal state, but the vessels and sinuses of the dura mater contained a larger quantity of blood than usual, which was liquid, and mixed with some bubbles of air. The lungs were considerably, but not intensely, congested. The heart was flaccid, and all its cavities entirely empty. It had been emptied, undoubtedly, after death. Artificial respiration was resorted to, and Mr. Sibson has remarked* that he has often known the heart to be emptied after death by artificial inflation of the lungs. Or if the head was first opened, as appears by the order in which the inspection is reported, part of the two or three ounces of fluid blood which flowed from the sinuses of the dura mater might have come from the right side of the heart, as I have seen the blood flow from the chest and out by the lateral sinuses in an inspection in which it was liquid. The blood in the case under consideration was as fluid as water in every part of the body, and the globules were thought to be altered in microscopic appearance. The causes which prevent the coagulation of the blood after death are not yet well understood, and although it is not correct, as was once supposed, that fluidity of the blood is a constant rule in certain kinds of sudden death, yet there are sufficient cases recorded where it was so, to show that it is not uncommon in the human subject when death takes place suddenly. The observations on animals, recorded above, as well as numerous others, show that it is not a characteristic property of chloroform to prevent the coagulation of the blood; and I think that the artificial respiration would assist, in more ways than one, to prevent its coagulation in this case, and one presently to be mentioned.

The next case that we have to notice occurred at Hyderabad.† The subject of it was a young woman, who required to have the distal phalanx of one of her fingers amputated. The surgeon who operated says, "I administered a drachm of chloroform in the usual way—namely, by sprinkling it on a pocket handkerchief, and causing her to inhale the vapour. She coughed a little, and then gave a few convulsive movements." When these subsided, the operation was performed, and endeavours were made to recover the patient, but in vain. Scarcely a drop of blood escaped during the operation, and the surgeon remarks, "I am inclined to think that death was almost instantaneous; for, after the convulsive movements above described, she never moved, or exhibited the smallest sign of life." There was no inspection of the body.

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* Med. Gaz. vol xli. p. 277.
† See Med. Gaz. p. 79, present vol.

* Med. Gaz. p. 216, present vol.
† See Med. Gaz., present vol. p. 84.

The case which occurred at Boulogne,* is so like the above, that we may consider the two together. The patient was a female, about 30 years of age, and took chloroform for the opening of an abscess. M. Gorré, the operator, says, "I placed over the nostrils of the patient, a handkerchief moistened with from fifteen to twenty drops at the most of chloroform. Scarcely had she taken several inspirations, when she put her hand on the handkerchief to withdraw it, and cried with a plaintive voice, "I choak!" Immediately the face became pale; [a symptom recorded also of the Newcastle case; and the one at Cincinnati] the countenance changed; the breathing embarrassed; and she foamed at the mouth. At the same instant, (and that certainly less than a minute after the beginning of the inhalation), the handkerchief moistened with chloroform was withdrawn." The operation was performed, and then efforts were made to restore the patient, but she was dead; and M. Gorré remarks that the death was without doubt complete at the moment when he made the incision.

From experiments related in former parts of these papers, the conclusion was arrived at, that to produce a degree of narcotism that would arrest the respiration, the blood must contain about one twenty-second part as much chloroform as it would dissolve; and that to narcotise the heart so as to stop its contractility, the blood must contain about one-eighteenth part as much as it would dissolve. By a calculation similar to that made before,* I find that half a fluid drachm is the quantity that there should be in the whole of the blood of a person of average size, to stop the respiration, and 37 minims to arrest the heart's action. In the case which occurred in India, a drachm of chloroform was placed on the handkerchief. We cannot easily suppose that more than half of this entered the patient's lungs, since the expired air carries away a portion as it passes over the handkerchief. And since, as was estimated before, only about half of what enters the lungs becomes absorbed, the remainder being expired again, there could only be about fifteen minims in the blood. This quantity, supposing the young Hindoo female was but half the average size of the adult, and this is not improbable, would only be just sufficient to cause death by arresting the respiration, without immediately stopping the heart's action, providing the chloroform were equally diffused through the whole of the blood. There is every reason, however, from the symptoms, to believe that the action of the heart was suddenly arrested; and the quantity used in the case at Boulogne would not have sufficed to cause death in any way, if it had been equally mixed with the blood. But it was not equally diffused through the circulation in either case,—there was not time for it to be so. Mr. Sibson, in treating the subject of death from chloroform,† makes some remarks in which I entirely agree. He says, "the poison penetrates to the heart from the lungs in a single pulsation, and at the beginning of the next systole the blood is sent through the coronary artery to the whole muscular tissue of the heart. The blood passing into the coronary artery is less diluted—is more strongly impregnated with chloroform—than is the blood in any other part of the system, except the lungs." By experiments 42 to 45 on frogs and rabbits, it has been shewn that chloroform will act locally on the heart; consequently, if the blood passing from the lungs to the left side of the heart should happen to contain one-eighteenth part as much vapour as it would dissolve, the patient might be suddenly killed before the nervous system in general were brought under the influence of the narcotic. A small quantity of chloroform might suffice to produce this result, if the vapour were mixed with only a limited portion of air.

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* See MED. GAZ., present vol. p. 76 and 211.

* MED. GAZ. vol. xli. p. 894.

† MED. GAZ., present vol., p. 109.

The difficulty of inhaling the vapour in a concentrated form, on account of its pungency, and the further dilution of it when inhaled with the air already in the lungs, no doubt would usually prevent this kind of accident, and are in fact the reasons why it has not more often occurred. Still I believe that the patient is not safe unless the vapour is systematically mixed with so much air that no great quantity of it can be in the lungs at one time. I am of opinion that ether is incapable of causing this kind of accident; for the blood may imbibe with safety so considerable a volume of its vapour, that the quantity which the lungs can contain at once, adds but little to the effect. And I consider that a patient could only lose his life by ether, from its careless continuance for several inspirations after well-marked symptoms of danger had set in.

M. Gorré says that he poured on the handkerchief not more than fifteen to twenty drops. The drops of chloroform are very small. When dropped from an ordinary phial, nine of them are equal to about two minims, and twenty drops would be less than five minims—a very small quantity. But, as the chloroform was poured, he probably means as much as would be equal to fifteen or twenty drops of water—in fact, about as many minims; and, indeed, as it was not measured, we have no means of being certain that there was not more—say, half a fluid-drachm. However, fifteen minims might be amply sufficient to cause death in the way indicated above, even if but half of it entered the lungs; and the sudden paleness, and almost instantaneous death, clearly indicate that the circulation must have ceased suddenly.

The post-mortem appearances in the case at Boulogne were very nearly the same as in the case which occurred at Cincinnati, previously alluded to. Artificial respiration had been resorted to, and carried to the extent of permanently dilating the pulmonary vesicles. Air was met with in the sinuses of the dura mater in the American case, and in this case a good deal of air was mixed with the blood in the veins of almost all parts of the body. There can be but little doubt that this was a result of the artificial respiration, although one cannot tell precisely in what way the result was produced. The peculiar state of the blood, which was very fluid and dark-coloured, as in the American case, must have depended rather on the suddenness of the death, and the artificial respiration, than on any immediate action of the small quantity of chloroform—a quantity much less than is usually inhaled in a surgical operation.

A patient died whilst taking chloroform during an amputation at the hip-joint, at the Hôpital Beaujon, in Paris. But the death in this instance was probably not entirely due to the chloroform; for although the patient apparently got an overdose of the vapour when it was repeated during the operation, yet, as the pulse was occasionally appreciable for three-quarters of an hour afterwards, he would most likely have recovered, had it not been for the lesion occasioned by the operation, which it seems was never finished. So the four cases previously alluded to, and which happened at Newcastle, Cincinnati, Hyderabad, and Boulogne respectively, comprise the whole of the instances in which it appears to me that death has clearly and undoubtedly resulted from the inhalation of chloroform. There was a death at Aberdeen, but not from the professional administration of the agent. There is another case, however, in which the death is generally attributed to the chloroform; and occurring, as it did, in the practice of Mr. Robinson, who has had great experience, and deservedly earned a high reputation, connected with the administration of ether and chloroform, it has made a great impression both on medical men and the public. My reasons for doubting that death was caused by chloroform in this instance are these:—Mr. Robinson's servant states, in her evidence, that the inhaler was not applied to the patient's face, but held at a little distance from it; and, with the kind of inhaler Mr. Robinson uses, it is impossible that the air the patient breathed could become strongly charged with vapour in this way; for it would pass into the mouth and nostrils by the side of the face-piece, and very little of it would pass over or through the sponge. Again, the patient was remarking that the vapour was not strong enough, just when the inhaler was removed, and the moment before he suddenly expired.* I consider that he would have made no such remark if there had been a quantity of vapour in his lungs capable of suddenly paralysing the heart. This condition of the patient is totally unlike the coughing and convulsions in the case in India, or the exclamation "I choke," in that at Boulogne. I am not inclined, however, to attribute the sudden death at that moment to a mere coincidence, as it might be occasioned by mental emotion. Fainting is not altogether peculiar to the female sex; and, supposing syncope to occur in a patient who has fatty degeneration of the substance of the heart, and an enlarged liver greatly encroaching on the space of the thorax, one can easily understand why he should not recover. In some of the reports it was stated that the patient did not appear alarmed, for he was laughing and talking the moment before he died; but I do not know why a patient should laugh in a dentist's operating chair, unless to disguise or try to banish his apprehension. He had been led by his medical attendant in the country to believe that the chloroform would be attended with danger in his case; and again, just the moment before he died, Mr. Robinson was asking him to have his teeth taken out without proceeding further with the vapour. The post-mortem appearances are quite consistent with this cause of death; and, according to this view of the subject, the disease of the internal organs assists to explain the fatal occurrence; but I do not see how it can assist in explaining it, if it be attributed to chloroform, although I am aware that it is usually thought to do so.

If the heart were so thinned that it were in danger of being ruptured by the least distension, or if some of its orifices were so contracted that it could not maintain the circulation under increased exertion or excitement, I could understand how the inhalation might be attended with danger, if excitement and struggling were produced by it, as sometimes happens. And on these grounds I always looked on extensive disease of the heart as a contra-indication, to a certain extent, of inhalation, and have expressed opinions to that effect; but I cannot conceive how a moderate and gradual inhalation of chloroform should cause any person's heart, however diseased, suddenly to cease beating. There are neither facts nor analogies in support of such an occurrence. Mr. Thomas Wakley, having met with great congestion of the heart and lungs in certain of the animals that he killed with chloroform, and mistaking, in my opinion, the consequence of the mode of dying for the cause of death, had expressed an opinion that this agent would be particularly dangerous in diseases of the heart and lungs; but this case, the only one of those where death was attributed to chloroform, in which any previous disease of these organs was found, cannot be considered to support an opinion founded on these grounds; for here there was no congestion of the heart, and but very little of the lungs. I am happy to find views similar to my own, respecting chloroform in disease of the heart, entertained by one whose opinion, both on account of the attention he has paid to this subject, and his great merit as a physiologist, is entitled to so much respect as that of Mr. Sibson. He says* that "persons the subject of heart disease, when the dread of a severe operation is great, may sometimes be peculiarly benefited by the careful and short production of anæsthesia during the cutting part of an operation."

[To be continued.]

ROYAL COLLEGE OF SURGEON.

Gentlemen admitted Members, October 6, 1848:—J. A. Tapson—J. Laity—J. G. Symes—J. O. Fletcher—C. E. B. Danson—T. Whitehead—W. Cox—W. Patteson—R. Barnwell. T. Hunter and T. E. Mouldsworth passed for Naval Surgeons.

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* I do not understand why Mr. Robinson was proceeding to add more chloroform, having previously put a drachm and a half on the sponge, as applying the inhaler closer to the face would have made the vapour stronger.

* Loc. cit.

ON CASES OF LONG-EXISTING CURVATURE OF THE SPINE.

By Samuel Hare,
Member of the Royal College of Surgeons, &c.

As the cases of spinal disease for which the profession is consulted are generally of a chronic character, I beg to forward, for insertion in the Medical Gazette, one of long standing and of extreme lateral curvature, complicated with extensive excurvation of the spinal column and ribs.

I was first consulted about the middle of October, 1847, on the case of Miss W., aged 16½ years, residing in the county of York, and obtained the following account of the previous state of her health, and of the progress of the disease up to the time when I saw her.

History.—She was a small and delicate child when born, and during infancy was frequently ill and very fretful: she had the hooping-cough severely when three years old; when five, she complained of great pain in the upper part of one of the lower extremities, especially after any exertion, as in walking, but there was no paralysis, nor was there any disease of the spine known to exist; at the age of six, she had the measles, accompanied with severe inflammation of the lungs, from which period her growth was for some time suspended, and she was altogether delicate afterwards; when seven, it was noticed that she bent to the right side—that the right shoulder was considerably enlarged—that she was soon fatigued, and frequently fell while walking. Two years afterwards, the curvature to the right side, and the projection of the right shoulder, having increased considerably, her medical adviser recommended her to have a pair of steel stays made, which she has continued to wear to the present time. When eleven, she suffered, and had done so for some time, from a severe cough, attended with difficulty of breathing, and palpitation of the heart: her debility, which was always considerable, continued to increase, attended with bad appetite and other symptoms of a disordered state of the digestive organs.

From the period at which the deformity was first observed, the disease and the consequent debility have gone on increasing to the present time, notwithstanding the use of the stays alluded to and the anxious care of her parents.

Present state.—On examining this patient, I found that the head had fallen so considerably forward and to the left side, that on applying a plumb-line to the forehead there was a distance of 4¼ inches from the upper end of the sternum to the plumb-line: the neck was consequently so short as to be scarcely visible, and the chin approached very near the chest: this twisting of the neck to the left was increased by the hunch (presently to be described) which was seen projecting considerably above the shoulder.

The whole chest was greatly contracted in front, the shoulders being brought very forward, and the sternum projecting much, and pointing to the right side. The ribs were considerably excurvated on the right side, while on the left, owing to the compression of the ribs by the stays, and to the projection of the hip, and the depression of the shoulder on that side, a considerable space or arch, to the extent of rather more than an inch and a half, existed between the trunk and the arm. The integuments of the chest and abdomen (especially over the left half of the latter) were much wrinkled, and the mammæ flaccid and atrophied.

The dorsal portion of the spine was not only curved excessively to the right, but was likewise very much *ex*-curvated, so that the spine and the ribs—which always in such cases participate in the deformity—formed a huge projection, backwards and upwards, to the right: this projecting mass was marked by two ridges nearly parallel with each other—the one being formed by the spinous processes of the vertebræ (which looked to the left instead of directly backwards); and the other by the ribs of the right side, which were bent upon themselves, at about an inch and half from their spinal extremities, into a sharp angle, so as to form the edge or most projecting portion of the hump: indeed, this curvature of the ribs was one of the most acute or angular I have met with, and formed a narrow, but very projecting ridge (which could be taken between the finger and the thumb) of at least fourteen inches in length. On the outer side of this projecting mass, the right scapula was so placed that its posterior border looked almost directly backwards, while the left scapula was half buried in a kind of fossa formed by the ribs of that side being bent inwards to an extent almost as great as that to which the right ones were excurvated. Three of the vertebræ (the 2d, 3d, and 4th dorsal), instead of being placed perpendicularly, formed almost a horizontal line at the upper part of the dorsal curve, while the compensating one in the lower part of the spine had its convexity of course to the left side, and was of considerable size: the left hip projected exceedingly, and the same space described as seen in front, between the arm and side, was also seen from behind, while the right arm was pushed out by the convexity of the dorsal curve being towards that side.

Her cast of countenance was heavy; her complexion not clear, there being some eruptions of acne throughout her face and on her back also. The integuments over the whole of the left side, from the clavicle to the hip, were exceedingly sensitive, so that she could scarcely bear the part touching, any pressure causing considerable nervous pain of an almost indescribable nature; there was also much pain in the lumbar region, and in the right hip as well, which was increased by walking.

The shortness of breathing and palpitation of the heart had become much worse for some years past, particularly in going upstairs, or using any other exertion, as in walking; her cough, also, was very troublesome, especially when she laid down: indeed, her sufferings were altogether very distressing, and her unfavourable symptoms had made so much progress during the last few months, that her friends thought her life in imminent danger.

She was considered to have entirely ceased growing, not having increased in height for some time, though she now only measured 4ft. 6¾.

Finding, from there being some slight mobility in the deformed part of the spine, that anchylosis, if it had taken place, which was most probably the case in some degree, had only done so partially, I determined to rectify the distortion as much as possible, thinking that the case offered a hope of success, notwithstanding the great length of time which it had existed. With this object in view, it was of course necessary to remove the weight of the head and shoulders from the deformed spine—a plan which could only be done efficiently by the use of the recumbent position for some hours a day. This was cheerfully assented to by the young lady, and frictions and firm pressure by the hand were employed three or four times a day in such a direction as to place the distorted parts in a more favourable position for permanent recovery. Afterwards, I applied firmer and more constant pressure, by means of a contrivance which I now generally employ, and which consists of a pad placed at the end of a spring, the power of which can be exactly regulated so as to suit any individual case, by raising or depressing, at the side of the plane on which the patient reclines, the upright piece to which the spring is fixed at a right angle. This is used at first for a short time, and afterwards for a longer period, as may be required, while the patient is in a prone position, and is applied in such a direction as gradually to press those portions of the spine which still retain their mobility towards their proper position. A constant but very gentle extension of the spine is likewise maintained during the time that the patient remains in the recumbent position, by the application of moderate weights to the head and extremities, according to the plan I have elsewhere* described.

Close attention was paid to the state of the general health, and mild warm aperient medicines were exhibited, by which its condition was improved, and the eruption on the skin gradually removed: tonics were afterwards administered. Under the foregoing plan of treatment, the slight elasticity or mobility of the deformed part of the spine, which has been alluded to, and which gave the hope of benefit being derived, manifestly increased. This is usually one of the earliest signs of improvement taking place; and in this case it was soon followed by an obvious improvement in the appearance of the deformity; so that, by the end of January, on examining the spine and other parts, the projecting shoulder was evidently less, the vertebræ were in a more perpendicular line, the neck was longer, and the chest was more developed. The notes I took on 25th April were, that she had continued to progress most satisfactorily, not having had a single unpleasant symptom since she commenced treatment, and that the direction of the spinal column and projection of the ribs had much further improved; her general health had likewise become very considerably better, as was also her breathing, which, from being so short that she could not read aloud longer than ten minutes or a quarter of an hour, had become so much improved that she was able to read for any length of time without feeling any inconvenience from it, and expressed herself as feeling to have "more room in her chest to breathe with." I need not detail the progress she made from time to time, but may mention, that in July both scapulæ rested upon the plane when she was in the recumbent position; while, at first, the left one was at a considerable distance from it when she was in that position, owing to the great projection of the spine, ribs and scapula of the right side.

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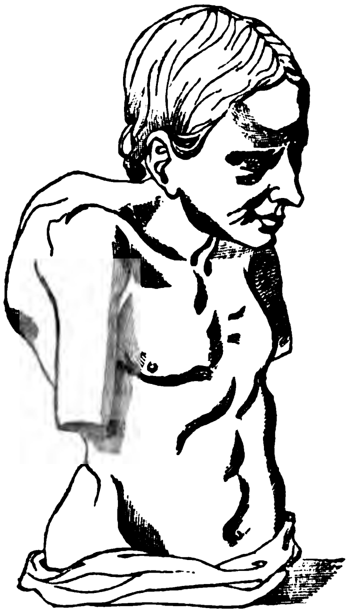
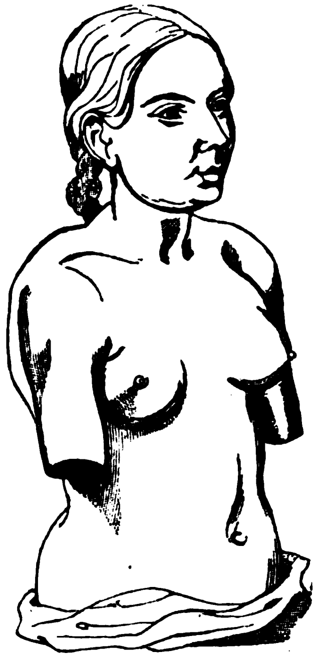
* Practical Observations on Curvatures of the Spine, 2d edit. 1844.

When she had been nearly eleven months under treatment, she was in the following improved condition:—Her head was quite erect, and had no perceptible inclination to the left side, and the neck was much longer, and well formed; the chest was more expanded, and the two lateral halves of it were nearly symmetrical, and the sternum did not project more than in an ordinarily-formed chest, while the spaces between the ribs and arms were very much filled up. On a posterior view, the spinal column was much more perpendicular than it had been; scarcely anything of the lumbar curve remained, and the upper one was much improved; those portions in which there was mobility before, having become much more straight, and the marked deformity only remaining in that part where anchylosis had before taken place, and which it would of course be impracticable to rectify; the form of the ribs had improved correspondingly with that of the spine. With this alteration in her figure, her health and strength had likewise increased: she could support her head with perfect ease, and walked comfortably, and





with a firmer step; while before, all motion was a fatigue and pain to her. Her appetite and spirits were excellent. As stated in a preceding part of this paper, she had lost all dyspnœa, and instead of being able to expire only 30 cubic inches, as was the case when she first came under treatment, she could then breathe as much as 69 cubic inches. She had also increased in weight from 5st. 9lb. to 6st. ¼lb.

The general change in her appearance, however, will probably be better understood by the accompanying engravings than by any description. The first is a copy from a cast of her taken when she commenced treatment; the other represents her as she was at the period of the last report.

Remarks.—The foregoing case, on account of its long continuance, the extensive deformity it exhibited, and the benefit it has received from treatment, is one of much interest. Too many of such instances are, from their being considered irremediable, left to take their chance, without any medical or surgical aid being sought, and without, therefore, any opportunity of cure being afforded; for it is a disease which of itself has little or no tendency to improvement, but, on the other hand, its tendency is generally to become gradually worse. The earlier such cases come under treatment, the greater the amount of benefit, which, as a general rule, will be obtained therefrom, but where anchylosis between the vertebræ or between these and the ribs has not taken place, a very considerable amount of good may usually be effected, even in cases of very long standing. In this instance, though a very severe one, I felt satisfied from the experience I had had in similar cases, that by perseverance in the plan I am in the habit of adopting—in a word, by pressure in a proper direction on the deformed parts, by gentle extension of the spine, and by attention to the state of the general health, (which must be treated according to the exigencies of the respective cases,) very considerable benefit might be derived.

As I have already stated in the account of the case, the circumstance on which I grounded my opinion of the practicability of improvement being effected was, that upon the spine being firmly pressed upon by the hand, a little mobility of the vertebræ on each other was perceptible above and below the most prominent part; and it is gratifying that the results of the treatment have borne out the opinion given. The curvature in the dorsal region was, as in by far the majority of instances, to the right side; but the case was not purely one of lateral deformity, as the spine was likewise excurvated—a complication which usually renders a case more difficult to treat, owing to the great deformity of the ribs which generally accompanies it, and which did so in this instance: indeed, a feature in this case, as remarkable as the projection of the right side of the back, was the incurvation of the ribs to the left of the spine, and their forming a hollow in which the scapula of that side was imbedded. I have seen, however, some other instances of a similar kind, and equally severe, and believe they are often caused, or at any rate made worse, by the pressure of stays, worn with a view of hiding the deformity, or sometimes even by those used with the intention of relieving it; for they are frequently of such a construction as to produce the most serious results by preventing the proper expansion of the chest, and thus aggravating the dyspnœa caused by the distortion, which in the above case was, when the patient first came under my care, a very troublesome and distressing symptom. I have seen not a few instances in which the curvature has been stated to have got gradually but considerably worse during the time they have been worn; besides which, it not unfrequently happens that the same stays are worn for a great length of time together, without any change or alteration to meet the natural growth of the body. I was recently consulted respecting a youth of twelve years of age, who had thus been allowed to wear, I might almost say, to live in, the same stays for no less a period than three years, though the pressure they caused was inconvenient, and I scarcely need to add, at least under these circumstances, injurious.

But, besides the improvement which accrues from treatment in the general appearance of the figure, the correlative advantages which arise from it are equally important, and may occur in cases where, from there being some amount of bony union between the vertebræ, complete cure of the deformity may not be possible: I allude especially to the fact of the patients usually increasing so much in strength, to their becoming stouter, and to their restoration, as in the preceding case, from (frequently) an almost helpless state to one of comfort and activity, in which they are able to fulfil the ordinary duties that may devolve upon them, and consequently cease to be that cause of care and anxiety to themselves and friends which they have perhaps been for years before: the improvement also which occurs under treatment in the breathing (amongst other symptoms) has been exemplified in the case above given—on the one hand, by the dyspnœa becoming gradually less troublesome on exertion or from reading aloud; and, on the other, by the increased quantity of air which the patient was able to expire, and which, while it amounted, when I first saw her, to only 30 cubic inches, had increased by January 25th to 50 inches, in April to 60, in July to 67, while on the last occasion on which I examined her there was a little further increase, viz. to 69 cubic inches. The breathing capacity of the lungs is ascertained by means of the Pulmometer, an instrument I have been in the habit of using since 1843 to ascertain the amount of air which could be expired at different times during the treatment of cases such as these, and I have invariably found the quantity increase in proportion as the deformity of the spine (and consequently of the chest) improved, and I have known the increase to amount to upwards of 50 cubic inches during the time the patient has been under treatment, without there having been any disease of the lungs or other cause, except the deformity, to account for the small quantity expired in the first instance.

The apparatus consists of a glass vessel graduated from above downwards in cubic inches, accurately suspended in a circular vessel of water, and counter-balanced by means of weights attached to it by cords, which pass over pullies properly arranged: the patient then fills his chest, and breathes through a tube passing into the meter, the rising of which indicates at the level of the water the number of cubic inches of air he can expire.

The case of Miss W. is only one out of very many which I have had, proving the efficiency of the plan of treatment pursued in the cure of cases of a similar character: I have adopted the same principle for more than twenty years past, and I can add that my confidence in the steady and persevering use of the means I have named for the relief of cases, which at first seem to hold out but little prospect of success, increases with my experience of it. I have stated, and all who consider the pathology of the disease will see, that many cases will occur which do not admit of the spine being got into a straight direction; but there are few, if any, of this kind even, which do not admit of relief being afforded, and that of a most important kind, and in a comparatively short space of time.

As regards attention to the treatment, I do not think it necessary to lay any absolute embargo on patients, as, under the directions of their medical advisers, their own good sense, and the feeling resulting from the consciousness of the benefit they are deriving, may generally be trusted to so as to insure their perseverance, especially as not the least pain is given throughout the whole course of treatment. I have already stated, that much real benefit may be derived from it in advanced cases, and even where the patient has reached the middle period of life. In the first edition of my work on spinal disease, I published the history and two engravings of a case of this kind, in which the lady was 41 years of age when she came under treatment, and had been entirely confined to the house for three years, and through inability to walk was obliged to be carried to and from her room; yet her deformity, though it had been a very extensive one, was so much relieved as to be scarcely perceptible when she was dressed: she subsequently continued exempt from any return of her former complaints, and was quite competent to discharge her domestic duties with comfort and facility. If, however, the treatment were more generally adopted in incipient cases, we should have much less frequently to deplore the severe ones which are to be met with in all ranks of society.

9, Langham Place, London,
Oct. 6th, 1848.

ANTICIPATION OF THE
VIEWS OF REINHARDT
ON THE
EXUDATION CORPUSCLE,
TOGETHER WITH SOME PRELIMINARY OBSERVATIONS ON
EXUDATION AND THE ELEMENTARY FORMS OF MORBID PRODUCTS.

By Andrew Clark, M.D.

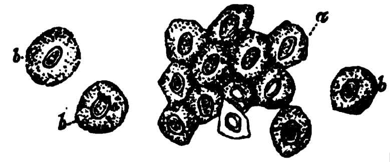
Assistant-Surgeon in the Royal Navy; of the Pathological Department of the Royal Hospital at Haslar, &c.; formerly Chief Assistant in the Pathological Theatre of the Edinburgh Royal Infirmary.

[Continued from p. 418.]

Description of the figures illustrative of the observations contained in the prolegomena.

Fig. 1.—Cellular forms from serous exudation into the pericardial sac.

Fig. 1.

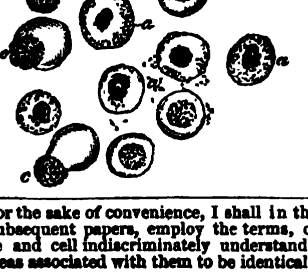


a. Patch of tesselated epithelium; healthy.

b. Isolated epithelial cells slightly enlarged, tumid, and exhibiting the presence of anormal granules within, and exterior to, the nucleus. *b b b.* Represent the first variety of cellular forms described as peculiar to serous exudation.

Fig. 2.—Represents the second variety of corpuscles,* described as peculiar to serous exudation. The ordinary molecular constituents of these corpuscles have become more or less resolved into a semifluid homogeneous mass, and their nuclei appear enlarged, spherical, and filled with granules.

Fig. 2.



a. Corpuscles, the nuclei of which are represented in the act of becoming enlarged and granular. The nucleus has not become entirely granular, nor have the normal molecular constituents of the cell become fully resolved,—for, between the complete development of the former, and the *fusion* and disappearance of the latter, there appears to obtain a pretty constant and definite relation. When the granular development of the nucleus is complete, the optical expression of a double marginal ring disappears: its outline is determined by a single refractive line, and the cell-wall becomes so pale and delicate, that its presence can be detected only by means of a minute pencil of obliquely applied light.

b. The second variety of corpuscles described as peculiar to serous exudation.

c c c. Represent the fully developed granular nuclei, in the act of escaping from their parent cells. The escape of the nucleus, in these cases, rarely produces rupture of the cell-wall. The latter, after fusion of the molecules, becomes not only more solid, but highly tenacious, and, at one end, is frequently prolonged into a narrow neck before complete separation of the nucleus is effected. There is every reason to believe, that, at the time of its escape, the nucleus carries along with it a distinct membranous envelope; but we have never been able satisfactorily to demonstrate its presence. The difficulty arises partly from the consistence of the escaped body, which is great, and partly from its refractive properties, which are considerable.

Fig. 3.—Cells in which the nucleus has become obscured by the development of anormal granules. The molecular constituents of these cells appear to be but slightly diminished. The granules are analogous to those described as "exudation granules"; and had the molecular constituents been more completely resolved, and the number of the granules so great as to occupy the whole interior of the cells,

they would have formed pretty accurate representations of the "exudation corpuscle." This variety of corpuscle does not appear to form, at any time, the subject of those changes illustrated by fig. 2.

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* For the sake of convenience, I shall in these and subsequent papers, employ the terms, corpuscle and cell indiscriminately understanding the ideas associated with them to be identical.

FIG. 3.

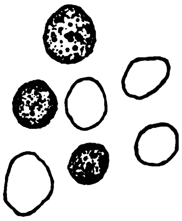
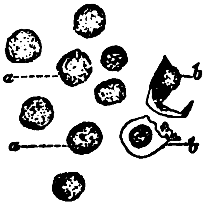


FIG. 4.—*a a*. Escaped nuclei of the cells represented in fig. 2 (*c c c*) forming the third variety of corpuscles described as peculiar to serous exudation.

FIG. 4.



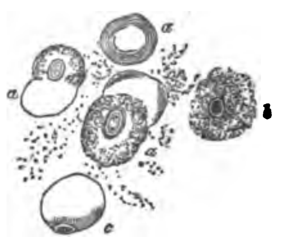
b b. The same as they are sometimes, but rarely observed with adherent membranous shreds.

The presence of these corpuscles not unfrequently constitutes the chief histological characters of thick, yellowish, purulent-looking deposits in the lungs, liver, and kidneys. The unmixed discharge from diseased bronchial cartilages consists of a fluid holding in suspension corpuscles, larger, but in other respects similar to those above described. They are likewise met with abundantly in the turbid yellow fluid: found occasionally in cysts; or, to speak more correctly, in distended secreting sacs of the choroid plexus.

FIG. 5.—Exhibits a mode of the disintegration of epithelial cells, which tends to throw light on the histological relations of the elements composing them.

a a. Cells in which the granular layer appears to be in the act of *sliding off* the subjacent cell-wall, carrying along with it the nucleus seen to be imbedded in its substance.

FIG. 5.



b. Broken-up layer of molecules and granules, after its removal from the cell. The nucleus is seen to have become granular.

c. Cell deprived of its granular tunic, but which retains its nucleus, adherent apparently to the outer surface of the cell-wall.

d. Cell deprived both of its granular tunic and nucleus, and consisting simply of a cell-wall and semifluid contents.

The fully-developed normal cell appears to consist of the following histological elements:—

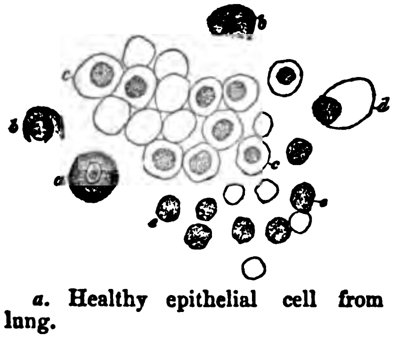
a. A cell-wall.
b. Homogeneous cell contents.
c. Molecules and granules.
d. A nucleus.

Of the molecular and granular constituents of the normal cell, some occupy its interior, and are either suspended or imbedded in the cell contents, according to the degree of their consistence: others invest the *external* surface of the cell-wall, and form a continuous envelope around it. This, which may be termed the granular coat, in the healthy condition of the cell adheres to the outer surface of the cell-wall through the medium of a kind of gelatinous matrix, in which the granules are imbedded, and which is subservient to the preservation of the union of these granules in the form of a continuous layer. Sometimes, as in the case illustrated by Fig. 5, the connecting matrix becomes, by solution or some other means, loosened at the point of contact with the external surface of the cell-wall, and the granular coat is thus permitted to escape. In at least seven cases out of ten, the nucleus is removed along with the layer of granules, and, until further changes take place, remains imbedded in its substance. In the remaining three the nucleus continues adherent to the outer surface of the cell-wall. The particular conditions which determine the loosening of the granular tunic of the cell determine also the solution of the molecules and granules contained in its *interior;* and thus it is that, after the escape of the granular coat and nucleus, the cell appears as a simple vesicle enclosing homogeneous contents.

The position of the nucleus.—The position of the nucleus is still a matter of dispute among histologists. Fig. 5, which is but one of many instances, appears to indicate that the nucleus is either imbedded in the substance of the cell-wall, or attached to its external surface. That the nucleus occasionally protrudes a little beyond the outline of the cell-wall is unquestionable; but that it is placed entirely exterior to the surface of the cell-walls, seems, from the optical expression of its physical characters under the microscope, impossible. The disappearance of the nucleus along with the granular coat, and its occasional retention by the cell-wall, appear to prove that in the healthy cell the nucleus is imbedded in the substance of the cell-wall; and that what Schleiden* stated to be *universally* true of the position of the nuclei in the cells of plants, may be predicated *generally* of the cells of animals.†

Fig. 6.—Cellular constituents of a purulent-looking fluid from a tubercular cavity in the lung of Charles Galpin, examined 2d August.

Fig. 6.



a. Healthy epithelial cell from lung.

b b. Epithelial cells in a state of disintegration.

c c. Cells, epithelial, which have undergone similar changes to those illustrated by Fig. 2.

d. Cell in which the granular nucleus is represented in the act of escaping from the parent cell.

e e. Escaped nuclei of the cells represented in Figs. 2, *b*, and 6, *c c.*

The other histological elements of this fluid were—corrugated blood discs, pigment cells, shreds of the walls of capillaries, elastic fibrous tissue from the openings of the air-cells, a few oil globules, and numerous molecules and granules.

FATAL CASE of ALGIDE CHOLERA.

By F. S. Haden, Esq.
Sloane Street.

The following notes, which appear to me to embody an instance of true Algide Cholera, have been already detailed and discussed in the Western Medical and Surgical Society; but I am induced to give them a wider circulation, in the belief that observations, scrupulously made in our own country, are likely to afford us more useful deductions for practice than cases sent us from the banks of the Ganges, which must differ from those we are likely to see here, in proportion as they are influenced by climate and other conditions opposite to those which we are accustomed to meet with.

It has been objected to the following case that it is not one of "true cholera;" but, in seeking to establish the diagnosis of this disease, it seems to me unreasonable to expect it to present precisely the same features here, in India, and at St. Petersburgh. There is enough (unfortunately) that is typical of the scourge to enable us to recognise it wherever it may occur; but we are not to deny its identity because it does not always come to us by the same route and in the same guise. A specific disease—the state of the atmosphere—the peculiarities of vegetation, tempermment, and race—are but the various resultants of a common law applied to different regions of the earth's surface; but we should not expect to find the same conditions of the air, the same vegetation, the same specific character of race, in Asia and in Europe. We have the *general* character (which is the *type*), but not the same *aspect*. How, then, should disease, or any other *phenomenon* purely *natural*, present exactly the same symptoms in opposite quarters of the globe?

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* Müller's Archives, 1838.

† This subject will be found more fully enlarged upon in the context. It is here treated of only in so far as it relates to the figures.

For myself, I am of opinion that cholera* is, everywhere, one and the same disease: that it is English in one place—Asiatic in another; mild here—severe there: Algide in proportion as the local congestion is great: and multiform, as time, place, and circumstance combine to make it. Nor do I deny myself the hope of seeing our nosological scale still more curtailed; and many diseases, now separated by an arbitrary classification, admitted to be essentially, if not very apparently, the same.

July 17: half-past 11 A.M.—I was sent for to the subject of the present case: stout and phlethoric in person, of active habits and an irritable temperament, an indiscriminate eater, and 78 years of age.

She states that at 4 A.M. she was awakened by nausea, purging, and a sensation of sinking, which, with occasional cramps in the right calf, still continue: but she has nothing else to complain of—no pain or thirst. Her countenance is slightly anxious, but the pulse is good, 80; the skin warm and natural, and the tongue moist. The dejections shown me were of a greenish colour, fluid, and containing flocculi and feculent matter. I considered the case to be one of simple intestinal derangement, and the flocculi as portions of half-digested lettuce, which, with bread and cheese, porter, and some spirits and water, she had taken for supper the night before; nor did I see anything alarming in the presence of the cramps, inasmuch as she was at all times subject to them, and occasionally in a severe degree.

At 1 P.M. a messenger came, in my absence from home, to say that she had vomited after taking what I had prescribed for her, and four or five times since, and that she was more purged, and altogether worse than in the morning. I could not attend, and Mr. Synnot, of Cadogan Place, was good enough to see her.

At 2 P.M. a second message arrived to the effect that she was worse, that the vomiting and purging were more severe, and that, in getting out of bed to go to stool, she had fainted. I was still absent, and another medical gentleman saw her.

At 3 P.M. my assistant reports that the surface was becoming cold; and Mr. Seaton, who visited her shortly after at his request, found it necessary to check the purging on account of its severity, but did not, I believe, even then look upon the case in any other light than that in which myself in the morning, and afterwards Mr. Synnot, had regarded it.

At half-past 10 P.M. I visited her, and found her in the following condition:—General aspect collapsed; pulse 93, small, but not remarkably so; respiration quickened and short; surface cold; tongue white; thirst urgent; countenance exceedingly anxious; intellect clear. Patient very restless; voice sharp and raised, expressing satisfaction at my entrance, but a conviction, nevertheless, that she should die. The last motion shown me was of the true congee character, about two pints and a half in quantity, pale, serous, charged with whitish flocculi. The cramps, which were now severe, seemed to attack her *before each motion*, and with each attempt at change of position. She had had, since morning, about twenty evacuations, the earlier ones, it was stated, greenish, but most of them, and all the later ones, of the character described.

At 11 P.M.—Pulse 96, smaller; respiration more difficult and shorter, being 25 in the minute; surface colder, and covered with a peculiar oily perspiration; hands cold and shrivelled, with a deep, basic, blue halo round the nails, themselves brown rather than blue; tongue cold, white, moist in the centre, and a little shrivelled round the edges; face livid and much shrunk, the lips and a circle round the eyes being of a deeper colour than the rest. There is nausea but no purging; thirst continues excessive, and small pieces of ice put into the mouth are swallowed with avidity. The cramps are severe in the knees, legs, and feet, eliciting, when they come on, a distressing and sharp cry. The appearance is wild and anxious, and she complains of noises in her head, her expression being, that "cannons go off in her head *with each breath* she takes." General distress and restlessness alternate with a disposition to drowsiness, and the hands are tossed to and fro.

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* Chol*a*ra would be the right way of spelling the severe form of the disease; from *χολας, ῥεω, intestinal flux*. Chol*e*ra can only express *bilious flux*, from *χολη, ῥεω*, and stands for common bilious diarrhœa.

12 P.M. — Pulse fluttering; respiration very shallow and frequent, 28 per minute; body icy cold, and bedewed with the peculiar perspiration mentioned; voice much lowered, sharp, cracked, and without tone; no purging or vomiting, but the cramps continue, with a thirst which cannot be assuaged; the tongue is whitish, moist, quite cold to the touch; and the breath, allowed to fall on the back of the hand, is also cold; the volume of air inspired and expired being, however, so small, as to make this symptom difficult to appreciate. Noises in the head continue.

1 A.M., 18th.—There is no great change, a peculiar faint odour is exhaled by the body, which, within an inch of the hot bottles, is of a marble coldness; the countenance is shrunk and livid, as is the whole surface, and the eye, strangely altered in expression, imparts, with its dark areola and contracted pupil, an aspect pinched and peculiarly ghastly; the voice, more feeble, is lowered into a whisper, and yet, when the cramps come on, raised and sharp; and the same greasy sweat covers the surface, except the face, which is simply cool and pinched, and of a dull lead colour. The demand for ice is continual; the arms cannot be kept in bed; and the pulse, though unsteady, is still perceptible in the axilla.

6 A.M.—Pulse somewhat restored, about 140 as nearly as could be counted; the respiration short, but less so; the voice more raised, but still without tone. The purging and vomiting have entirely ceased, and the cramps are less severe, except on attempts at motion.

Half-past 10 A.M.—The pulse is now 120; the breathing less embarrassed; the skin of the hands and face still cold and livid; is not so much so as it was, and the thorax is perceptibly warmer. She appears as if she would rally. The tongue is still cold, but the breath not so; the voice, though cracked, is somewhat stronger; and the intellect clear. She complained at this time of a pain across her loins, and said that, if she were allowed to get out of bed, she thought she might be able to pass water. On the attempt being made in my presence, however, her feet would not support her, and immediately afterwards, while still in the arms of her attendant, she appeared to become suddenly unconscious of where she was, stared two or three times wildly round the room, and was removed to bed in a state of partial insensibility, from which she never wholly recovered.

At noon, the skin was warmer, the breathing deeper, and the lividity less, except about the hands and face—the pulse 120, irregular, small—the pupils contracted, and insensible to light—and the comatose state more pronounced.

Half-past 2.—Pulse 120, more regular; surface warmer; breathing easier. No urine yet passed; the catheter introduced into the bladder, found it empty.

Half-past 3.—In the same state, except that the face is less livid, and now almost as if congested.

Half-past 4.—The same; pulse 112; better.

Half-past 5.—Some delirious excitement; pulse certainly improved; 110.

Half-past 6.—The delirium had passed off, and the coma become more profound.

Half-past 9.—She could be roused to consciousness, but the catheter again passed found no urine.

Half-past 10.—The same.

Half-past 11.—Pulse 106, stronger; breathing more natural; warmth returning to upper part of the body; capable of being roused.

Midnight between 18th and 19th.—The warmth of head and chest was now *considerable;* so much so, that it was my impression the case would run on to consecutive fever. Later in the night, Dr. M'Lachlan reports that the head was *even hot, and the face turgid;* the coma profound, and the pupil insensible.

10 A.M., 19th.—Dr. M'Lachlan saw her with me. The pulse was then smaller than on the previous night; easily annihilated by pressure, yet good and regular. The head was cooler; the sopor lessened; *℥ss. of concentrated urine was drawn off* by the catheter, and for a moment she could

be roused; the pupils, though less contracted, still remaining insensible to light.

At 1 P.M. I found her moribund; leeches, which had been applied to the temples two hours before, were still adherent, but not filling, nor did any blood follow their removal. The temporary heat of head and chest had gone off, and the face had resumed its collapsed appearance; the pulse had become thready; the inspirations short and shallow; and the air-passages embarrassed with mucus. She is now sensible, though the pupils continue contracted, and is *acutely alive to the slightest touch*, crying out with a short and feeble cry, as if from pain, when the finger is placed upon her. The pulse from this time continued to fall until it became imperceptible. The inspirations more imperfect, and with a greater interval between them, and at half-past 4 she died.

No post-mortem allowed.

[To be continued.]

ON THE

RATIONAL TREATMENT OF ALGIDE CHOLERA.

By E. J. Shearman, M.D.

I HAVE been much delighted and instructed by the late perusal of Dr. Parkes' valuable contribution to the little stock of knowledge we possess of the pathology of cholera; and cannot help remarking, that to me his information appears more likely to be correct than that of any other author. I saw a good deal of the disease in 1832, and there is a truthfulness about his researches which carries conviction with them.

Dr. Parkes distinctly proves that, in the stage of collapse, the right side of the heart does not empty itself; all the branches of the pulmonary artery are gorged to the greatest extent; there is no blood in the lungs; and the left side of the heart and arteries are *empty*. The serous, albuminous, and saline parts of the blood ooze through the different tissues, and are evacuated; the fibrine of the blood alone being found in the intestines.

Now, this must be owing either to the choleraic poison having so chemically altered the blood that the oxygen of the atmosphere cannot act chemically upon it, and the venous blood remains in the pulmonary artery; or the choleraic atmosphere is of such a nature as to prevent the chemical combination of it with the blood of the individual in respiration. Unfortunately, Dr. Parkes had not the means of chemically and pathologically examining the blood of his cholera patients; but the *former* position appears the most tenable, from the immediate good effect produced by injecting a solution of albumen and salts into the veins, which, unfortunately, does not last long enough to allow nature to weather out the disease.

Where a case has reached this period, it is almost invariably fatal, for no absorption can take place; the venous system is full, and all medicine and nourishment introduced into the stomach must be useless.

But may not the red globules of the blood become poisoned and useless? and if so, what use would the albumen and salts be if there were no oxygen carriers?

Reflecting on this subject since reading Dr. Parkes' work, I have made up my mind, should nothing more be discovered respecting the pathology of cholera, and considering the failure of every other mode of treatment, that I will treat my cases verging into the stage of collapse, by first taking away as much blood as I reasonably can from a vein in the arm (no easy matter), and then immediately transfuse warm blood from the most healthy subject I can meet with, and keep up respiration as long as possible with a mixture of equal parts of oxygen gas and atmospheric air. Although this will not dislodge from the branches of the pulmonary artery the poisoned blood, it must give nature a better chance of carrying on circulation and respiration than by injecting merely albumen and salts without any healthy red globules.

I think respiration may be carried on in such cases by using a modification of my friend Sibson's mouth-piece, which he invented for the inhalation of chloroform. And oxygen gas can be kept ready prepared over water for a great length of time.

The first, or premonitory, stage of cholera requires merely common astringent remedies. The next stage, where the vomiting and purging are accompanied by cramps, seems to admit of two grand modes of treatment: viz. tartar emetic, and acetate of lead with opium, together with various external remedies to relieve particular symptoms. In 1832 I only became acquainted with Mr. Stott's (of Manchester) treatment by tartar emetic when the disease was subsiding; but all the cases I treated with it certainly recovered. In the Lancet for Sept. 16, 1848, there is a valuable communication from my friend, Dr. C. Radclyffe Hall, on this subject, well worth perusing; and I can add my testimony to the success which attended that mode of treatment.

I am not aware that the above method of treating the stage of collapse has ever been tried; but, until the researches of those most conversant with pathological chemistry shall have decided what the nature of the poison of cholera is, any apparently rational mode of preserving life for a few hours cannot be deemed unworthy of notice.

Rotherham, Oct. 1848.

TREATMENT OF CHRONIC LIPPITUDO.

BY ISAAC HAYS.

Ophthalmia Tarsi is generally a manageable disease, but occasionally cases are met with in which the affection, in consequence of neglect or bad management, has persisted for years,—the lids have become puffy, their lining membrane thickened and villous, causing more or less eversion *(ectropium)*, their edges raw and sometimes ulcerated, the ciliæ irregular and scanty, or entirely lost; with photophobia, lachrymation, &c. Two such cases came under our charge during our recent service at Wills Hospital; and as they had resisted the usual remedies, I was induced to try the alternate application of tincture of iodine, and the solid sulphate of copper, at intervals of three days. The external surface of the lids was painted with the former; and three days afterwards the latter was freely applied over the thickened conjunctiva. Under this treatment both cases, one of them of twelve or fourteen years continuance, have recovered, and we are induced to communicate the circumstance in hopes that this course may prove equally useful in the hands of others."—*American Journal.*

MEDICAL GAZETTE.

FRIDAY, OCTOBER 13, 1848.

The attention of the public as well as of the profession is almost exclusively fixed on the Asiatic Cholera. We have now before us a pile of pamphlets, containing all kinds of suggestions respecting prophylactic and remedial treatment; and the columns of the daily journals are filled with Instructions to the Public from Boards of Health, or with reports of the progressive advance of this formidable disease.

In the instructions issued to the public, the members of the Boards of Health of England and Ireland appear exceedingly desirous of impressing upon the minds of persons that cholera is not communicable from one person to another; or, to use a common term, that it is not infectious or contagious. The Dublin Board asserts that it is "rarely, if ever," contagious*—a dubious form of expression, which may, we think, be fairly taken to mean "sometimes." The London Board, in a notification issued on Friday last, has entered into some details on this subject. Thus the report states:—

"The extent, uniform tenor, and undoubted authority of the evidence obtained from observers of all classes in different countries and climates, and amidst all varieties of the physical, political, and social conditions of the people, appear to discredit the once prevalent opinion that cholera is, in itself, contagious; an opinion which, if fallacious, must be mischievous, since it diverts attention from the true source of danger and the real means of protection, and fixes it on those which are imaginary; creates panic; leads to the neglect and abandonment of the sick; occasions great expense for what is worse than useless; and withdraws attention from that brief but important interval between the commencement and development of the disease, during which remedial measures are most effective in its cure.

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* See page 595 of our last number.

"Although it is so far true that *certain conditions* may favour its spread from person to person, as when great numbers of the sick are crowded together in close, unventilated apartments, yet this is not to be considered as affecting the general principle of its non-contagious nature; nor are such conditions likely to occur in this country: moreover, the preventive measures, fonnded on the theory of contagion—namely, internal quarantine regulations, sanitary cordons, and the isolation of the sick, on which formerly the strongest reliance was placed, have been recently abandoned in all countries where cholera has appeared, from the general experience of their inefficiency."

The Editor of the *Times*, in commenting upon this report, goes a step beyond the members of the Board of Health, who are exceedingly cautious in their language, and endeavours to satisfy and console his readers by the assurance that there is no more likelihood of the communicability of cholera from one person to another than there is of a broken leg! He says:—

"But to be fully persuaded, as every person now undoubtedly may be, that *no contagion whatever* accompanies the epidemic, is a circumstance in the highest degree re-assuring and consolatory. It is no doubt true, that when one person has taken the cholera another may take it. The atmospheric conditions which produce one case may produce another; just as when our pavements are covered with ice and snow, if half a dozen men fall down and fracture their ankles, there is, of course, a probability that others may fall down and do the same. But as to any direct communicability of the accidents from one person to another, such a thing is no more likely in the case of cholera than in the case of a broken leg. Both cases, indeed, call for similar conduct and similar precautions:—for prompt and fearless attention to the sufferer; for greater carefulness on our own parts, and for the immediate removal of all those dangerous agencies which brought the misfortune to pass.

"It is not to be supposed that considerations of contagion may be altogether discarded. In the strict sense of the word—that is to say, as implying a communicability of the disease by touch or proximity, it may indeed be entirely dismissed from thought—such a property has been proved in the case of cholera not to exist. But in the case of all diseases whatever, if by want of due ventilation and cleanliness the atmosphere of any one spot be allowed to acquire an intensity of poison, there is no doubt that such atmosphere could not be inhaled with impunity. This is no characteristic of cholera; any known malady will produce the like effects: nay, to return to our illustration—if six men with broken legs were crowded into one foul and ill-ventilated chamber, it is a fact well known to every scientific practitioner that their wounds will not only not heal, but that any attendant exposed to the atmosphere of the chamber would be liable to the self-same incurable gangrene if he chanced to have any fleshwound about his person. *Any disease whatever is contagious under such conditions as these.* Whether, in any case, the poison of the atmosphere can be, by such neglect as we have been describing, so highly concentrated, and, as it were, inspissated, as to become transmissible from one place to another, not only by persons, but by articles of clothing, furniture, or the like, is a point on which serious doubts are now altogether entertained; and it is argued with great show of reason, that even the black plague of Cairo can claim no such terrific powers. In the case of cholera, however, there is no kind of ground for any such suspicions, nor can it be made infective except by such extreme neglect as would make consumption just as dangerous."

The vagueness of language which characterizes these statements, induces us to believe that they have been made and circulated from motives of expediency. Say that a disease is contagious, and you frighten persons from approaching to, or administering to the wants of, the sick; because people will always exaggerate the degree to which a disease is communicable from one person to another. The motive is praiseworthy enough: it is to remove the fear, in a great measure groundless, under which timid persons would labour, if it were authoritatively declared that the disease was contagious. We have, however, to view this question in a medical aspect, and not to allow the truth to be concealed or evasively announced, merely for the sake of soothing the public mind. The members of the Board of Health, among whom there is only one belonging to the medical profession—namely, Dr. S. Smith, tell us that "*certain conditions* may favour the spread of cholera from person to person, as when great numbers of the sick are crowded together in close unventilated apartments, yet *this is not to be considered as affecting the general principle of its non-contagious nature.*" This admission, it will be seen, applies with equal force to typhus fever, as well as to that severe form of it known under the name of Irish fever, so that we presume in future the same fine-drawn destruction will be made with respect to this disease. "It is not contagious or communicable, but certain conditions favour its spreading from person to person." We do not like this plan of dealing with medical facts and doctrines for the sake of what may appear to be a safe method of preventing a panic in the public mind. Our view is that the truth should be told, for sooner or later it will be made known; and should the official notification, taken in its ostensible meaning, prove to be unfounded, as we believe it will be, it must have the effect of destroying all confidence in Government reports. Our contemporary, the Times, carries this soothing plan to an extent which must appear absurd to all reasonable persons. Foulness and filth cannot create the choleraic poison, or we should have had it constantly with us, and not now have had occasion to speak of its second progressive advance from east to west. The poison is generated in the bodies of the affected, and perfect ventilation and cleanliness have merely the effect of diluting it, and disarming it of its virulence. In fact, as with the miasm of typhus, it is rendered inert under these circumstances, and will not reproduce the disease in another person. The Board of Health theory, as it is developed in the Times, is, that there are no emanations from the body of one person which can produce the disease in another; but that when many individuals are crowded together, and there is a want of due ventilation and cleanliness, then a poison is generated. The proof, however, that the diseased body has some share in the matter, is the fact, that the disease produced by the neglect of these hygienic precautions, is always identical in characters with that under which th individuals are labouring. Typhus fever does not arise from the crowding of cholera patients, nor does malignant cholera proceed from the foul air of wards in which fever patients are crowded together. Yet the writer in the Times argues that "any disease whatever is contagious under such conditions as these;" from which we suppose it to be understood that crowding a ward with gouty or dropsical patients, would, of course, produce gout or dropsy in any person who happened to enter it!

Among the many pamphlets in relation to the cholera which we have lately received, there is one which deals with this question in a more rational manner than we have yet found it treated by medical writers.* The writer considers the question logically, and his premises are based on facts which we think will be admitted by all experienced medical practitioners. Dr. Reid observes—

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* A Letter to Lord Morpeth and the Members of the Board of Health, on the question, "Is CHOLERA CONTAGIOUS OR NOT?" by William Reid, M.D. Fellow of the Royal College of Physicians, Edinburgh, &c. London: Highley.

> "At the present conjuncture, the question of *contagion* or *non-contagion* in cholera is one of the most vital public interest; and hitherto it has by no means been answered satisfactorily, either in the negative or affirmative, as the conflicting testimonies of boards of health collectively, and medical authorities individually, abundantly prove. It is a subject, further, on which the public at large is highly excited, and on which, moreover, we conceive it is fully competent to form an opinion, or certainly to balance the probabilities of evidence, and thence determine the *practical* line of conduct to be pursued. May we add, it is a question, besides, on which we think the public has a right to demand some information, and if it cannot be answered directly in the affirmative, or unconditionally and absolutely in the negative, to be supplied with the grounds for such an unsettled state of the proposition."

Using the terms infectious and contagious as synonymous, the writer proceeds to say—

> "That any disease should be entitled to be designated by the term infectious or contagious, it is *not* requisite that every human being who comes within the sphere of its action should sicken thereby. So, evidently, there are certain conditions of the animal frame—whether arising from the vital actions constantly going on internally, or proceeding from the operation of external causes affecting it (exclusive totally of the action of the pure simple contagious matter), whose separate or conjoint influences enable it to withstand the assault of the enemy; while likewise there are conditions under which it yields more readily to the same. This daily, experience must have taught every one. As then, these states of the body, or conditions of the animal frame, are equally requisite with the presence of the poisonous effluvia, it is apparent, that could these former be avoided, checked, suspended, or even modified, the latter, or the noxious agent, would no longer produce its impression or effect on the now unsusceptible body.
>
> "The extremely virulent and diffusive nature of the poison of contagious fever in close and ill-ventilated dwellings is well known; but the same fever occurring in the person of a wealthy individual, whose bed-room is airy and spacious, seems at once disarmed of that most characteristic property—to wit, infection; so that it might be held almost as a totally distinct and different disease. Had the dwellings of the lower order of society been similarly constituted, it is more than presumptive that the disease *typhus* might never have received the appellative *infectious*."

The controversy which so long existed regarding the contagious propagation of typhus is now settled down into a general admission, that the disease is, under *certain conditions*, propagated by proximity to the sick. The opposition shown by the late Dr. Armstrong to the admission of this theory, must be fresh in the recollection of our readers. When several cases occurred successively in a house or street, the Doctor was always ready to prove that there was malaria in the district, just as now with the cholera, plums and sour beer, or some overflowing cesspool, is made responsible for the successive attacks of persons who have been in a district where cholera was extensively prevailing. It is strange, however, that the insufficiency of such an explanation is not made apparent to every reasonable mind, when the first cases occur among the crews of vessels which have recently arrived from a port where the disease is prevailing.* In the cases which occurred at Hull and Sunderland, the men brought the disease with them; of this we do not entertain any doubt, but whether it will spread among the inhabitants of these towns or not, must depend on various circumstances. If, fortunately, it should not spread, the fact will apparently be in favour of the view taken by the Board of Health, that cholera is not contagious; but on this point it may be as well to consider the following remarks made by Dr. Reid:—

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* The cases at Hull occurred on board a vessel from a Prussian port; and two cases, more recently observed by Dr. Sutherland, occurred on board of a vessel which had recently arrived from Hamburgh. See page 641.

"The affection commonly named the Rose, or St. Anthony's fire (the erysipelas of systematic writers), has from time immemorial been classed amongst the *non-contagious* order or group of diseases; in short, it has generally been considered as *not* infectious. *Three*, however, authentic, uncontested, and indisputable illustrations of the contrary have been noticed within the last thirty or forty years, respectively in Montrose, Edinburgh, and the metropolis. Some twenty or thirty were affected in all, and if we recollect aright, some of these cases terminated fatally. But that does not in the least affect the question of infection.

"The corollary or inference, then, is self-evident; for here is a disease, usually in its most ordinary form (and, as every person knows, it is a most prevalent affection) held as *not* contagious, propagated by contagion, distinctly through a series of three different groups of individuals, originating in *one* of each of these groups, in whom the original cause was altogether a matter of pure accident. What holds good, then, in this affection, may, until the contrary is demonstrated, hold no less forcibly in any other new disease, not generally deemed to be infectious. *The production, apparently, of a disease by contagion, does not preclude its origin from causes independent of any animal effluvium; and the generation of a disease from natural physical causes, would not appear to prevent the possibility of that affection subsequently acquiring infectious properties.* So that, if we are brought in collision with a disease of such a *double* nature (if this expression be permitted), we shall have at once to fortify ourselves against the agency of the physical causes, and avoid, at the same time, free intercourse with the infected, if we desire to live secure from the disease. No one denies now the occasional production of erysipelas by infection. The evidence of the production of cholera in a similar mode is fully as strong; still, the Cholera may be, and in all probability is, very much under the influence of atmospheric and terrestial agencies; but so, likewise, is common continued fever. The Cholera is not always infectious; but the *fact that it is so at times*, upholds the necessity of always being on our guard against that contingency occurring."

"We consider that the proposition, also, may be held as established, that the identity of a disease, and its propagation by infection, are not to be reputed as absolutely essential in every instance; or, in other terms, it will be admitted, we conceive, that a disease may at times proceed distinctly and undoubtedly from infection; while under other circumstances, causes altogether of a different character may contribute to its generation. In the case of common continued fever this seems to be undoubtedly the actual statement of the proposition. And precisely so do we conceive the evidence holds as regards the Cholera.

"It may not be contagious in one locality, while, in another, it displays that property in an exquisite degree. In the large and spacious dwellings of the rich and affluent, it may never assume that mark (analogous to typhus under these conditions); while, in humbler and crowded abodes of the dwellings of the poor, infection may be its most distinctive mark. It may likewise (to pursue the parallel) never attack, at least but rarely, the wealthy (analogous again to typhus fever, which rarely affects that class of society); while the poor, impoverished, over-wrought, ill-fed, depressed artizan, becomes its ready prey, as is sufficiently notorious in the case of our common fever. It may have one character in the tropics, and display another within the temperate circles, yet continue still the same affection. It not being contagious in one district, is no guarantee that it will not become so in another; for in the first many concurring causes might *not* exist, which may be met with in the latter."

Dr. Reid differs *toto cœlo* from the Members of the Board of Health on the expediency of stating the whole truth. The Board appears to act on the principle that the public should be kept in ignorance of the fact, that cholera may be, and is sometimes, communicated from one person to another. This it is supposed will cause individuals to attend with more zeal and confidence to each other's wants in the event of an attack. This may be; but, as Dr. Reid observes, there is the risk of lulling the minds of the people into a false security, and thus leading to the unnecessary sacrifice of life. To act strictly upon the doctrine, would be to incur a great risk of admitting the cholera by importation, just as the fever was imported into Canada by the Irish emigrants.

"From the data now enumerated, we think we do not rush precipitately to a conclusion when we assert that we have no positive evidence that *cholera* is *invariably* a non-contagious disorder; and also that, on the other hand, we have most satisfactory and indisputable grounds for saying that it has almost, in its first visitation of this country, uniformly affected the very same localities and tracts which are the unvarying haunts of typhus. In the unbiassed mind these facts would certainly be sufficient to excite suspicion, and create doubts as to its non-contagious character. This suspicion would be eventually converted into a direct affirmative, when the disease is found to arrive simultaneously in different districts subsequently to the arrival of individuals there from infected localities, and who finally fell ill. It is accordingly lulling the minds of the people into a false security, maintaining unreservedly such a proposition; and, if qualified, where are you to stop? where do you end? where do you begin? where is the exact line of demarcation? at what point do you say—thus far and no farther? The more prudent, the more safe, and the more judicious plan, is to adopt the precautionary measures connected with such an assumption. No harm can arise therefrom; on the contrary, much good may result.

"Habits of cleanliness will be enjoined; free ventilation enforced. Along with which, proper diet and occupation will disarm the pestiferous malady of much of its virulence. The act of knowing we are occupied in doing what is sure to prevent the disease will invigorate and confirm the mind, so that it will be able to withstand the assault. Nothing so deadly in epidemic diseases as a panic. We have witnessed the fatal effects of such a state of the nervous system more than once. In perils of whatever kind there is no greater security than a precise knowledge of the exact degree of danger. And the habitual typhus, to which we are daily and hourly exposed, is, by universal assent, admitted to be a disease of a most malignantly infectious character compared with the Cholera. Be it, then, attentively observed, that the lives of millions will be affected by the tenor of the regulations you enjoin. And beware, lest it be proved to be *invariably* contagious; as yet the reverse has not been determined."

Many will agree with us in thinking that it was decidedly impolitic to make the difficult question of contagion a subject of discussion in official instructions issued to the public, or in the daily journals. The truth should have been told in a plain and unequivocal form, or the matter should have been left altogether unnoticed. As it is, the Boards of Health, both of London and Dublin, have adopted a course which it appears to us cannot be justified. In the recent documents they have not shewn the courage to affirm, without any reservation, that cholera cannot, under any circumstances, be communicated from one person to another: they say, "the extent and undoubted authority of the evidence, &c. *appear* to discredit the once prevalent opinion that cholera is *in itself* contagious—an opinion which, *if fallacious*, &c." Then we are told that *certain conditions* "may favour its spread from person to person, &c.;" but such conditions are not *likely* to occur in this country, &c. We have already commented on the notification of the Irish Board, to the effect that "Cholera is *rarely*, *if ever*, contagious." "Consequently" (it continues) "the separation of the sick from the healthy —a measure so essential in checking the spread of fever—is *not* required in Cholera." Further, "the *non-contagious* character of Cholera fortunately removes all objection to the receiving of persons suffering under the disease into the ordinary hospitals of the country, &c." It will be seen that the Government Boards, while wishing to impress the public mind with the idea that the disease is not contagious, have in reality adopted a qualified admission of the doctrine of contagion; and we are inclined to ask, with Dr. Reid, where are we to begin, and where to stop? It will, we think, be somewhat difficult to fix the line of demarcation; and, if this be not fixed, people will be more frightened at the uncertainty than at the reality.

The truth might have been told in a few words. Cholera, like fever, may prevail in an epidemic form; and, like this disease, it may be communicated from one person to another; but, as a general rule, this will happen only in those cases in which cleanliness and ventilation, &c. are wholly neglected. This statement, while it would, we believe, have been consistent with truth, would have been more satisfactory to the public than the vague form in which the disease has been officially pronounced to be non-contagious.

If we are to trust to the observations of some practitioners who are well acquainted with the characters of Asiatic cholera, this disease has shown itself, but as yet not in a formidable shape, in the metropolis. The notes of several cases have reached us: the symptoms in all are of the same character, and the disease is marked by a rapidly fatal termination. A brief account of the case which proved fatal in St. Bartholomew's Hospital is elsewhere inserted.* We do not mean to question the judgment of those gentlemen who have unhesitatingly affirmed that the cases belong strictly to the Asiatic variety of the disease, and that they are not cases of English cholera in an aggravated form; but we entertain no doubt that similar cases, although not so numerous, have occurred in the metropolis for some months past. In another part of the journal † will be found the report of a case, by Mr. Haden, which occurred in August last, and which, so far as we can ascertain, is identical in its symptoms and progress with those which have been reported recently. The question whether these cases are to be ascribed to autumnal cholera in a severe form, or to the pestilence which has been steadily progressing westward, is likely to have a speedy solution. The number of persons attacked, the intractable nature of the cases, and their rapid progress to a fatal termination, are circumstances which, if observed, cannot fail to identify the malignant form of disease. We have had already so many false alarms on the subject, that it will be only common prudence to reserve an opinion until some further observations are made.

In addition to the cases reported at page 640, four other cases are reported to have occurred on Wednesday. So far as we can ascertain, the disease has not as yet manifested any tendency to spread.

We elsewhere‡ insert a letter which will illustrate the scandalous treatment to which the medical officers of Poor Law Unions are often compelled to submit. The main object of some of these sub-officials of the poor law appears to be, to procure medical relief without paying for it. A quasi-order is issued: if the medical officer attend, and the case goes on well, payment is refused. Should he decline to attend, and the case turn out unfavourably, the overseer or other parties may throw the whole of the blame upon him, and appeal to the order as a proof that he had legal notice to attend! Mr. Buller, the President of the Poor Law Board, cannot surely be aware that such tricks as these are played by overseers, for the purpose of cheating the medical officer out of the fair value of his services.

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* Page 640 † Page 627. ‡ Page 639.

Reviews.

The Student's Clinical Memorandum Book; or, Medical Practitioner's Remembrancer and Vade Mecum. Highley, Fleet Street. 1848.

We commend this memorandum book to the use of every student or practitioner who is desirous of keeping a record of the results of his observation and practice. It is arranged in the form of an oblong note book, adapted to the pocket. Four pages, with ruled lines, are devoted to each case, and they are so conveniently sub-divided as to admit of the introduction of every fact of interest in the history or treatment of a case. To the frequenters of the clinical wards of hospitals it will be found an invaluable companion. We quite agree in the statement of Dr. Barlow, inserted in the preface, that "Exact information is difficult to furnish, chiefly from the neglect of all medical reporting; and this arises less from indolence or want of zeal than from no general mode being devised that all may adopt." As far as our judgment goes, the compiler of this book has succeeded in removing this objection. We believe that it is to be had, at a very reasonable price, and it will be found far more serviceable than the blank note-books commonly used by students.

The Clinical Repertory. Synoptical Tabular Form. London: Highley. 1848.

This Repertory, which is in a large sheet of double demy folio, is so constructed as to allow of the tabulation of a vast multitude of facts on all subjects connected with diseases and their treatment, and at the same time to afford the statistician an opportunity of keeping a geographical and meteorological journal. It also embraces numerous subjects of interest in a sanitary view. Nothing seems to be omitted; and the only question is whether, in respect to clearness of reference, too much may not have been introduced.

Pharmacopœia ad usum Nosocomium phthisicorum et pectoris morbis ægrotantium accomodata. 12mo. pp. 37. Londini, apud Bradbury and Evans. 1848.

This little pharmacopœia, as its name implies, is especially adapted to the use of the Hospital for Consumption and Diseases of the Chest. It contains rather more than 100 formulæ, which appear to have been very judiciously selected. We have looked through the list, and believe that although the formulæ consist chiefly of new combinations of well-known compounds, there are many which will be found serviceable to a practitioner who is called upon to treat a case of chest disease.

Proceedings of Societies.

MEDICAL SOCIETY OF LONDON.

Monday, October 2, 1848.

Mr. Hancock, President.

Mercury and its effects.

Mr. Hancock inquired if any members had tried the plan recommended by some French surgeons, of giving calomel in very small doses in inflammatory cases? The dose recommended was a twentieth part of a grain every hour, day and night, until the specific effect of the medicine was produced. He had tried this plan with two patients in Charing-cross Hospital, both of whom had been admitted with inflammation of the testicle, consequent upon gonorrhœa. In one case, he gave a twentieth of a grain of calomel every hour; in the other, a twentieth of a grain every three hours. In the first case, the patient was salivated in thirty-six hours; n the second case, in forty-eight hours. The advantages of this mode of producing ptyalism were, that the effect was milder and more controllable than where larger doses were administered; the bowels were also unaffected. The mode of its administration was as follows:—Calomel, one grain; confection of opium, a scruple; divide in twenty-pills—one every hour. In the cases related, the effects of this medicine were most decided.

Mr. Middleton had been occasionally surprised to see small doses of the mercury and chalk produce ptyalism in children of all ages when given merely as an alterative. Large doses of calomel failed to produce any such effect. He had seen salivation produced in a child by a single dose of the mercury with chalk.

Dr. Willshire had never seen ptyalism in a very young child, though he had observed its effects on the mouth from the administration of this medicine.

Mr. Hooper had never seen a child salivated by calomel. With respect to small doses of calomel to produce the specific effects of mercury on the constitution, he had long been in the habit of employing them. One grain every three or four hours he found more effective than the larger doses.

Mr. Hird said, that if all the beneficial effects of mercury could be obtained from the small doses mentioned by Mr. Hancock, then, indeed, would the new plan be very useful. His opinion, however, founded, it was true, on his experience of the small doses, was, that in acute inflammatory diseases of serous membranes they would be found less effective in lowering the heart's action, and producing the other specific effects of mercury, than the more commonly-employed doses. He had seen the worst effects of mercury in children when employed as alteratives.

Dr. Willshire admitted that the specifics of mercury were exerted most beneficially. In cases of syphilis in young children, one grain of the mercury with chalk, and two grains of soda, night and morning, generally, in ten or fourteen days, succeeded in effecting a cure, but without producing salivation. He threw out a hint that mercury in inflammation might not be so effective as some had imagined, and appealed to the opinions expressed by Dr. Alison, and by a reviewer in *Forbes's Journal*, on this point.

Mr. Robarts believed that the effects of mercury were influenced and modified much by the period of year, state of weather, &c., at which it was administered. He had tried the plan of treating chronic catarrh with small doses of blue-pill, as recommended by Dr. F. Thompson, and published in *The Lancet*, with much success.

Mr. Hancock had found, in cases where it was thought almost impossible to produce salivation, that a few grains of iodide of potassium, administered in the intervals, was most effective.

Mr. Bishop had observed the same circumstances.

Correspondence.

UNJUST TREATMENT OF POOR-LAW MEDICAL OFFICERS. ORDERS ON LOAN.

Sir,—I shall feel obliged by your answering in your columns the following, or giving me your advice as to what course should be adopted under the circumstances by the district medical officer of the Poor-Law Union.

A poor man (*not a pauper, receiving parish relief*, with a *large family*, and earning 12s. or 14s. per week), applies to the Overseer of his parish for medical attendance on his wife, who is hourly expecting her confinement: this, the Overseer refuses, on the ground of *the applicant not being a pauper;*" but he (the Overseer), being afraid lest any accident may happen to the woman during labour, sends me (being the district medical officer) the following order.

"To Mr. D.,
Medical Officer, Hartshorne.

Sir,—Please to attend A. B., residing in the above parish.—Signed,
C. D., Overseer.
Sept. 20, 1848.

P.S. This order is on Loan."

In accordance with this order from the Overseer, I attend the patient for a fortnight, and during that time she is delivered under my care. At the expiration of that time, the Board of Guardians (who hold their meetings every two weeks) decide, "that the case was not for the *parish surgeon*, and that they cannot allow me anything for my attendance on her during that time, she not being considered a pauper."

I shall be much obliged to any of your correspondents, who will advise me how to act in such a case, and whether the Overseer *has the right* of *compelling* my attendance by an order "*on Loan*," and then refusing to pay after the recovery of the patient; or whether I can compel the Board of Guardians to allow me for my extra attendance on such patient.

I remain, sir,
Your obedient servant,
Perry Dicken, M.R.C.S.
Ashby-de-la-Zouch, Oct. 2, 1848.

*** The Overseer has no power to compel the medical officer to attend a patient, except by an order which justifies a demand for payment. The law knows nothing of orders *on loan*; and we advise our correspondent to consult a solicitor, as to the form in which he should bring his plaint before the judge of the County Court.

Medical Intelligence.

FATAL CASES OF CHOLERA RETURNED IN THE WEEK ENDING SATURDAY THE 7TH.—(ALL ARE CERTIFIED BY MEDICAL ATTENDANTS.)

In Old Street (sub-district), St. Luke's, at 39, Rahere Street, wife of a gentleman, 59 years, "disease of the bowels, simulating Asiatic cholera (38 hours' duration)." In south sub-district, west London, F. 27 years, "cholera (13 hours' duration)." In St. Bartholomew's Hospital, west London, M. about 40 years, "Asiatic cholera." In Town (sub-district), Bethnal Green, at 4, Cheshire Street, a weaver, F. 21 years, "enlargement of the heart (12 months' duration), cholera, spasmodic (12 hours)." In Spitalfields, Whitechapel, M. 23 years, "cholera (12 hours' duration)." In Whitechapel north, a girl, 4 years, "English sporadic cholera (7 days' duration). In St. Paul (sub-district), St. George in the East, M. 38 years, "cholera (2 days' duration)." In Mile End Old Town, Lower Stepney, M. 47 years, "cholera (36 hours' duration)." Mr. Castleden, the Registrar's Note. Mr. Todd, the surgeon in this case, certifies that the above was a case of Asiatic cholera; and the informant states, that her father (the deceased) got up on Thursday morning, about 4 o'clock, with a bowel complaint, for which he took some gin and ginger, and then went to his work on board ship, but which he was compelled to relinquish about mid-day. He returned home in a cab, and died yesterday morning at 4 o'clock. The medical gentleman was in close attendance to the very last." In Lambeth Church, 2nd part (sub-district), at Orsett Street, daughter of a chairmaker, 11 months, "cholera (3 days' duration): convulsions, (1 hour)." Mr. W. H. Wheatley, the Registrar, states, "that at one end of the street mentioned above, in the centre of the road is an open drain, which is very offensive at times—drainage to houses very bad. Scarlatina has been very ptevalent there." In Rotherhithe, a boy 11 years, "cholera (19 hours' duration)." In same sub-district, F. 38 years, "cholera (19 hours' duration)." In same sub-district, a girl 2 years, "cholera (2 days' duration)." In Greenwich West (sub-district) F. 37 years, "cholera (4 days' duration)."

THE CHOLERA IN THE METROPOLIS.

Three fatal cases of Asiatic cholera, one of them the termination of an attack of cholera on board the hulks, were reported on Oct. 10th, and several cases of dangerous attacks, confidently stated to be of Asiatic cholera, were also reported. Twelve of the cases reported on the 9th occurred subsequent to the thirteen cases reported in the Registrar-General's report of last week, which were up to Saturday only. Five cases have occurred in a court in Chelsea; three at Rotherhithe; two in the city of London; two in Spitalfields; two in Whitechapel; two in Bermondsey; two in Horsleydown: inclusive of those at Woolwich, 26 fatal cases have been reported during the week. Dr. Parkes, and Mr. Robert Bowie, surgeon, who gave evidence on the river side cases before the Sanitary Commissioners, have been engaged, on behalf of the General Board of Health, in examining the cases reported to them.

ALLEGED APPEARANCE OF THE CHOLERA IN EDINBURGH AND LONDON.

A notification was received in town from Edinburgh on Friday last, announcing the appearance there of malignant cholera in five cases—three in one part of the city, and two in another. Three of the cases had proved fatal within twenty-four hours. The College of Surgeons had advised the immediate formation of a local Board of Health. Dr. Sutherland, who had been investigating two cases of cholera occurring at Sunderland on board a vessel from Hamburgh, had, on Thursday, been directed by the General Board of Health to proceed to Edinburgh and take steps in aid of the organization of a local Board of Health, and measures of prevention or alleviation.

By information since received, we learn that other cases, considered to be of decided Asiatic cholera, had appeared at Edinburgh. On board the Justitia hulk, lying off Woolwich, two cases of Asiatic cholera had occurred on Saturday, and two yesterday, of which three had proved fatal. Other scattered cases have been reported; but two decided cases were reported in the metropolis several weeks ago, and in the extraordinary state of the weather during the last week, which would favour the propagation of the ordinary English cholera, the reported cases must be received with caution.

⁂ We received, but too late for publication in our last number, the following account of a case of Asiatic cholera which had occurred in St. Bartholomew's Hospital:—

A man, from Lambeth, was brought in on the 4th instant, at 4 A.M., having profuse vomiting and diarrhœa, accompanied by the usual dirty, watery evacuations; lividity, cramps of the limbs and abdominal muscles; no pulse, cold skin, and other marks of collapse. He died in the course of the evening. The post-mortem appearances, as common in such cases, showed little. The daughter (a child) of the patient has just been brought in with similar symptoms, though of a milder nature. She recovered.

THE CHOLERA AT WOOLWICH.

Woolwich, Oct. 10.—It is gratifying to be able to state that there have been no new cases amongst the convicts to-day, and it is the general opinion that the prompt measures which were adopted on its first appearance will have the most beneficial results. At all events, those measures have had a great influence on the minds of the inhabitants, and numerous faces that on the first assurance that cases of cholera had arrived bore a most serious aspect, now appear quite cheerful, all apprehension of the disease increasing having ceased to exist. The convicts on board the Justitia are still under quarantine, and none of them are permitted on shore to work in the Royal Arsenal.

THE CHOLERA AT HULL.

No other cases of cholera have occurred in Hull since our last; and we believe that the apprehensions which existed last week have almost entirely subsided. Mr. Grainger, Dr. Sutherland's colleague, accompanied by Dr. Ayre, proceeded to Hamburgh, in the Helen Macgregor steamer, Captain Frost, on Saturday last. Dr. Sutherland remained in Hull throughout Sunday and Monday. On the latter day he expressed his entire conviction that there was not any cholera in the town. On Tuesday morning he proceeded to Sunderland, but is expected very shortly to return to Hull, and to follow his colleague, Mr. Grainger, to Hamburgh. Two vessels are lying in Whitebooth Roads, in the Humber, with the quarantine flag hoisted.

A vessel arrived from Hamburgh at Hull on Monday, with several cases of attacks, and one fatal case, on board. Two cases of cholera had occurred in the town, but they were positively stated to be cases of the common English cholera, and no cases of Asiatic cholera had been heard of there.

THE CHOLERA AT EDINBURGH.

It was reported on Saturday last that seven or eight cases of Asiatic cholera had occurred in Edinburgh and Newhaven during the week. In order to prevent unnecessary alarm, we deem it right to state that we have been informed that several of the cases included in those referred to by Dr. Taylor are considered by the medical gentlemen who treated them, and who therefore had the best opportunity of judging of their character, to be merely severe cases of the ordinary form of British cholera, so prevalent at this season of the year. The same parties also state that, if these cases were real cases of Asiatic cholera, they have met, in the course of their practice, with many cases of the same kind during the last nine months. At the same time that we would thus warn the public against unnecessary alarm, we would equally deprecate inattention to the means prescribed for warding off this frightful scourge, which, there is reason to fear, may yet ere long visit our land.

A correspondent informs us that there had been twelve deaths from cholera up to Monday last.

THE CHOLERA AT BERLIN.

By letters received from Berlin on the 28th September, it appears that there were 47 fresh cases of cholera on the day preceding. Up to this date, 1601 persons have been attacked, and among these there were 944 deaths and 260 recoveries: 397 were under treatment. It is stated that in this city the disease has committed the greatest ravages among the middle classes, while in Russia the lower classes chiefly suffered. In the barracks there have been but few cases, while they have been very numerous in the prisons.

QUARANTINE AND CHOLERA.

It is satisfactory to know that every precaution has been taken by Government to prevent the importation of cholera. Instructions have been forwarded from the Board of Health to the Customs authorities of Southampton, to impose a quarantine of six days upon all steamers arriving from foreign ports where the cholera prevails. The same rules are enforced at other ports.

THE GENERAL BOARD OF HEALTH.

The Queen has been pleased to appoint Thomas Southwood Smith, M.D., to be the Medical Member of the General Board of Health.

APPOINTMENT OF AN OFFICER OF HEALTH IN THE CITY.

The following discussion on the propriety of appointing an Officer of Health recently took place in the Common Council:—

The Chairman said, that he held in his hand a report from the select committee relative to the desirableness of appointing an Officer of Health as early as possible for the months which have to come before their new act would come into operation. It was intended, or rather proposed, to ask for power at the next Court of Common Council to appoint such an officer. As it did seem from the public papers that the cholera was making rapid advances towards this country, it was desirable that there should be no delay in the matter.

Mr. Williams.—Will such a step supersede the necessity for such parties to be appointed in the several parishes?

The Chairman.—Our proposition has nothing at all to do with any merely local arrangements.

Mr. Kemp wished to remind the Court that part of the proposition of the select committee was that the party to be so appointed was also to be allowed to attend to his private practice as a medical man. Certain he (Mr. Kemp) was, that, according at least to a list of duties such an officer would have to perform according to the new act of Parliament, it was inconsistent for them to suppose that any man could attend to his public duty and his private practice at one time.

Mr. Blake did not consider that it was essentially necessary that the Officer of Health should be a medical man. They wanted a party who could distinguish causes of disease in this case rather than a man who could supply a remedy after an epidemic had made its appearance.

Mr. H. L. Taylor would ask the commissioners whether they had any idea what the committee proposed to give this Officer of Health? They would be astonished to find that the sum named was £400 a-year. (Surprise.)

Mr. Kemp.—£500.

Mr. Taylor.—Why, it ought to be ten times that amount; and I am satisfied if £4,000 were proposed that the Court would be unanimous upon the subject.

Mr. Blake explained that the idea was, that many young men of great ability might be found, possessing the necessary talent, who would be glad of the opportunity this appointment would give to them of rising in their profession to honourable eminence.

Mr. Perkins said, that to the honour of the profession it ought to be said that the pay was a secondary consideration. Upon the last visitation by cholera these men had charged nothing for their valuable services.

Mr. Deputy Corney moved, and Mr. Kemp seconded, that the clause as to expressing an opinion as to the "private practice," be expunged. As to other matters, they would be discussed in full at the Court of Common Council.

The report, upon a division, was carried in the shape it was brought up, the amendment being lost—17 voting for the motion, and 13 for the erasure of the line.

ON THE FREQUENCY OF INSANITY AMONG THE POOR.

The following communication from Mr. T. Sidney, in reference to this subject, has recently appeared in the Times newspaper:—

Much has been said and written to show that some modes of prison discipline have a greater tendency than others to insanity among criminals, but I am not aware that any one has taken the trouble to ascertain to what extent this afflictive malady prevails among the lower classes of the community, from which the criminal population itself is chiefly formed.

I have extracted from the latest official documents the following statistics of pauperism and crime, with the view of ascertaining the relative proportion which lunacy bears to each.

From "the Appendix to the Annual Report of the Poor Law Commissioners" I find—

The number of paupers in England and Wales in 1846 was	1,330,557

And from the latest official publication on lunacy it is stated that—

The number of pauper lunatics in England and Wales in 1846 was	9,835
And of idiots	6,799
Total	16,634

I also extract from the "Twelfth Report of the Inspectors of Prisons in Great Britain," that—

The total criminal population in 1846 was	129,796
The number of lunatic criminals under confinement at the same period being	337

The result stands thus:—

One lunatic for every . .	385 criminals.
One lunatic for every . .	135 paupers.
And one lunatic or idiot for every	80 paupers.

Whilst such a frightful amount of lunacy and idiotcy prevails amongst the poorer classes (being more than fourfold greater than exists in the criminal population), and the highest medical talent is very properly called forth to prevent criminals falling victims to its ravages, some further inquiry as to prevention and remedy is due to the honest poor. Justice and mercy demand that they should receive a proportionate share of sympathy.

OBITUARY.

On the 2d inst., at Rye, Francis Henry Wilson, surgeon, aged 46.

On the 2d ult., at Nevis, West Indies, W. T. Nicholson, Esq., M.D.

On Sunday, the 8th inst., at his residence in Great Surrey Street, Blackfriars, in the 85th year of his age, Robert Mayhew

Thompson, Esq., late Surgeon to the 14th Light Dragoons.

On Saturday the 7th inst., Richard Hicks, Esq., of No. 7, Argyle Square, King's Cross, surgeon, in the 35th year of his age.

Selections from Journals.

ANIMAL CHEMISTRY.

ON THE CHEMICAL CHANGES OF RESPIRATION. BY MM. REGNAULT AND REISET.[*]

It is agreed by all experimenters who have investigated the chemical process of respiration, that part of the oxygen of the air breathed disappears, and a certain quantity of carbonic acid is formed. According to some, however, the whole—according to others, only part—of the absorbed oxygen is employed in forming the carbonic acid. With regard to the changes undergone by the nitrogen of the air, considerable difference of opinion has existed; some believing that this gas is absorbed, others that it is exhaled.

The experiments of Dulong and Despretz, which are generally regarded as the most correct, have shown, that for every 100 parts, by volume, of oxygen absorbed, from 65 to 75 parts enter into the carbonic acid exhaled; while the remaining 35 or 25 combine with a corresponding quantity of hydrogen, and form water. They shewed, also, that a considerable quantity of nitrogen is disengaged during respiration, sometimes as much as one-fourth of the quantity of oxygen absorbed. It is manifest, however, that the latter statement is incorrect; for not only would an animal thus exhale through its lungs, in twenty-four hours, much more nitrogen than exists in the food taken during that time, but, as observed by Liebig,[†] the quantity thus parted with, independent of that evacuated by the other excretions, would in a few days exceed the quantity of nitrogen contained in its whole body.

If, now, the amount of nitrogen shewn by these experiments to be exhaled through the lungs is incorrect, it is probable that the relations said to exist between the quantities of oxygen absorbed, and of carbonic acid exhaled, are also incorrect; for all the proportions of the gases composing the respired air were determined by the same analysis. A new and very extended series of experiments on the subject have been instituted by MM. Regnault and Reiset, who give minute details of the several steps of the process employed by them, the precautions taken, and the kind of apparatus used. Their investigations, which are still in progress, seem to be performed with much care and exactness, and their results may probably be fully relied on. The most important of these results is, that nitrogen is invariably exhaled through the lungs, though the quantity is small, rarely exceeding $\frac{1}{100}$th of the amount of oxygen consumed. Hydrogen, and certain carburetted gases, usually present themselves in small quantity. As an illustration of the changes which Regnault and Reiset found to occur in the respired air, the following results of an experiment, in which a young dog was confined in the apparatus for 24½ hours, may be quoted:—

	Grammes.[*]
Oxygen consumed	182·288
Carbonic acid produced . . .	185·961
Oxygen contained in the carbonic acid	135·244
Nitrogen disengaged	0·1820

If the quantity of oxygen consumed be represented at 100, then the results may be thus stated:—

Oxygen consumed	100
Oxygen in the carbonic acid . .	74·191
Oxygen otherwise disposed of .	25·809
Nitrogen disengaged	0.0549
Average quantity of oxygen consumed in an hour	7·44

CASE OF HYDROPHOBIA. EMPLOYMENT OF CHLOROFORM.

BY THOMAS T. SMILEY, M.D.

March 9th, 1848.—Was called to visit John Henderson, aged 14 years. Symptoms:—Mind perfectly clear and collected, eyes preternaturally bright, and hearing morbidly acute; complained of heat and constriction about the throat, and pain in the lumbar region. Pulse 80, small, and exhibiting very slight indications of febrile action. Tongue slightly furred, white and soft. Spasms about the muscles of the neck supervened every two or three minutes, and continued a few seconds. After each spasm a mouthful of white froth was ejected, having a tenacious appearance. Could swallow, by a strong effort, a portion of fluid taken into the mouth—a part also being violently ejected by the effort of deglutition. The difficulty of swallowing had been first observed on the morning of the 8th, after a good night's rest, and without any previous indications of indisposition. Had been bitten on the chin and under lip *nine weeks* previously, by a dog exhibiting symptoms of rabies canina.

Both the history of the case and the unequivocal character of the symptoms pointing clearly to the nature of the disease, the mode of treatment became at once a matter of serious consideration. Reflecting on the acknowledged inefficacy of venesection, heretofore chiefly relied on for controlling the most prominent symptoms of hydrophobia, and no symptoms being present which on general principles required it, I determined not to resort to that method of treating the disease, but to make use of other remedies which had at least an equal chance of being useful, with less chance of being injurious. For the purpose, therefore, of removing the muscular contractions and spasms of the glottis, I prescribed the following mixture: —℞. Tart. ant. et pot. gr. vi.; tinct. tolu, fʒi., aq. f℥vi., M.S. A table-spoonful every five minutes till vomiting is produced; afterwards to be continued every hour. For the other most prominent symptoms a liniment was prescribed, composed of Tinct. sapon. camph., tinct. canthar., and liq. ammon. To be well rubbed in along the whole course of the spine, by means of a soft piece of flannel, and to be repeated until the skin becomes abraded. No means being at hand for general bathing, ordered a hot mustard pediluvium.

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[*] Comptes Rendus, 1848.

[†] Journal de Pharmacie, t. viii. p. 24.

[*] A gramme equals about 15½ grains English.

March 10th, at 7 A.M., the patient had passed a dreadful night, requiring the strength of several persons to hold him during the spasms, which had recurred frequently. The tart. ant. had all been taken without producing vomiting. The patient had complained of a little nausea, but the distressing symptoms did not appear to have been moderated, or in any way controlled by the exhibition of this medicine. Discontinued the further use of the tart. ant., and prescribed the following mixture.—℞. Spts. æth., sulph. comp., fʒij.; tinct. theb., fʒj.; aq. camph., aq. cinnam. aq. pur., *aa* f℥ij. M. S. A table-spoonful every hour. Frictions to the spine to be continued as before directed.

At 11 o'clock A.M., again visited the patient. He had succeeded in swallowing the mixture, as ordered at the previous visit, without much difficulty, and had had no spasms since he commenced taking it. Appears greatly relieved, and laughs and talks fluently. Sitting up on a stool by the fire. On entering the room had some difficulty in recognising the patient, his appearance was so much improved.

As the spts. æth. sulph. comp. appeared to have been evidently beneficial, and considering that, from the constitution of chloroform, it must possess analogous, if not identical properties, with a more powerful action on the nervous system, directed the mixture to be continued as before, and ordered ten drops of chloroform on a piece of sugar of suitable size, to be placed in the mouth, and inhaled by deep inspirations; to be repeated at intervals, more or less frequently, according to the exigency of the symptoms. Tongue moist, but heavily loaded, having a bilious appearance. Prescribed pulv. jal., gr. vi.; mft. chart., No. 12, S. One every hour, until the bowels are freely moved.

March 11. Morning.—Had slept a little during the previous night. Was sitting up on a chair before the fire, the floor around him covered with saliva: appears to be a genuine secretion from the salivary glands, being colourless and not frothy. Cathartic had operated slightly. Had been free from spasms during the night, while the medicines acted; afterwards, more distressed. Articulation a little thick; mind collected. Conversed freely, and expressed himself greatly benefited and relieved by the remedies prescribed. Asked to have another supply of the same, especially the "breathing mixture." Pulse 90; small, and less forcible than on the previous day. Directed the medicines to be continued as before.

March 12.—He had been nearly free from spasms during the previous day and night, and the difficulty of swallowing had greatly diminished. Had continued to take the mixture and inhale the chloroform as directed. In the morning slept for an hour or two; was then suddenly roused by some person knocking violently at the door; complained of being disturbed, and expressed a desire to sleep again. Soon after told his mother to "bid the doctor good by;" and expired quietly, without spasm or any violent effort.

Remarks.—1. The spts. æth. sulph. comp., tinct. theb., and chloroform, having been prescribed with the view to produce a direct action on the symptoms accompanying the disease, the relative proportion and total amount of each exhibited during the treatment of the case, are worthy of being noted. Of the first and second, fʒvi. and fʒiij. respectively, were administered by the stomach; and of the chloroform, fʒij. by the lungs.

2. The first two, administered by the stomach, had prevented the recurrence of a paroxysm for three hours, before the chloroform was given by the lungs; and the combination of all three, when given as directed, prevented the recurrence of the most distressing symptoms during the subsequent progress of the case. Whether the first two would have continued to prevent the spasms, if given in the same or increased doses, would be difficult to determine.

3. It will be perceived that no attempt was made to give the chloroform to the extent of producing insensibility; nor was it considered desirable or proper to do so. The attempt to keep a patient for hours or days constantly under the influence of that powerful remedy to such an extent would itself in any case soon produce a fatal result; and the death of the patient might then be fairly referred to the remedy instead of to the disease. A constant but limited effect, just sufficient

to prevent a recurrence of the spasms, was the object in view; and for this purpose small doses, frequently repeated, were directed.

4. The general result of the treatment in this case proves that the remedies used exerted a decided influence on the progress of the disease, and modified the symptoms to such an extent as greatly to relieve the distress, though it failed to cure. Possibly one step has been made in a course of treatment which may hereafter render hydrophobia a curable disease.

5. In the present case, circumstances did not admit of such a close and careful supervision as would have been desirable. The constant presence of a well qualified medical attendant, who could increase or diminish doses, and regulate the time of giving or withholding remedies, according to the immediate exigencies of the case, together with the use of all the collateral means necessary to give the fullest efficacy to the leading remedies, might have a great influence in producing a more favourable result.

6. It may be asked why the patient did not recover, if the spasms and other leading symptoms were under the control of remedies. It should be recollected that the disease is one thing—the symptoms are another. The spasm of the glottis, and other phenomena attending the disease, are only symptoms, and not the disease itself. These symptoms are the manifestations of a morbid condition somewhere else—probably in one of the nervous centres—and may be modified or controlled without curing the morbid condition on which they depend.—*Phil. Med. Exam.*, April 1848.

ON THE LOCAL TREATMENT OF BED-SORES.

BY DR. BERNARD.

The local remedies should be varied according to the different stages of the sores. For practical convenience, we may divide the progress of these ulcers towards reparation into three stages. In the first, we have a deep slough, analogous in some respects to the eschar artificially produced by caustic potash; this slough (according to the powers of the constitution) will take two or three weeks to be cast off. Whilst this process is taking place, we should rather assist than interfere with the salutary efforts of nature. Stimulating applications will now be found most useful. A carrot-poultice should be applied every morning and evening. A solution of chloride of soda may also be sprinkled on the poultice to decompose offensive effluvia. The patient should be ordered to lie on the face to take off pressure from the sore; if this is not practicable, bolsters, air-cushions, or bladders, inflated and oiled, must be used with a similar intent.

When the slough falls out, a deep unhealthy-looking ulcer is presented to our notice, forming the second stage of these sores. This ulcer is generally round or oval. The integuments at the circumference are undetermined, so that you can readily pass a spatula beneath them, showing that the subjacent cellular tissue has lost its vitality even to a greater extent than the cuticle. The margin of the ulcer is consequently found to overlap its base. The base presents a flabby, uneven surface without granulations, and interspersed with shreds of adherent slough. From this surface a thin sero-sanguineous or ichorous discharge is secreted, having a most fœtid odour. In order to promote healthy granulations, and stimulate the parts to cast off the remaining shreds of slough, warm dressings, consisting either of equal parts of gum elemi and spirits of turpentine, or of castor oil and Peruvian balsam, may be applied, dipped in lint, to the bottom of the ulcer, and a linseed-meal poultice, spongio-piline, or a carrot poultice, placed over them. After a few days, the ulcer will assume a more florid appearance, and show a disposition to form granulations. It will now be necessary to make a change in the dressings. At this particular stage we shall hear of many vaunted remedies and old woman's cures spoken of as specifics, consisting of ointments that take twenty days to make, lotions, and poultices innumerable. Suffice it to say, that the simple means I have used at this stage have answered all my expectations, and have added more to my patient's comfort than all the greasy applications which are recommended for the same purpose. It consists in applying every morning with a camel's-hair brush a solution of nitrate of silver (ten grains to an ounce of distilled water) to the flabby granulations, then covering the surface of the ulcer, and filling it up with fine carded cotton. A piece of oiled silk, large enough to cover both hips and sacrum, should then be placed over the dressings. The oil silk thus applied serves a double purpose;—it will, by preventing the evaporation of the discharge, keep the cotton soft, and permit its easy removal at each dressing; it will also add to the cleanliness and comfort of our patient, by preventing the bedclothes being soiled. Under this simple treatment, the surface of the ulcer soon begins to assume a more healthy appearance, the granulations at the margin become amalgamated with those at the base, until the cavity is filled up by luxuriant granulations.

We have now the third stage of these bed-sores to treat. As, in the second stage, our object was to stimulate the surface to healthy action, we have in this to control inordinate action and repress luxuriant granulations. A concentrated solution of sulphate of copper (applied every morning) will be found most useful for this purpose. The carded cotton and oil silk, as above recommended, may be also continued until the ulcer is perfectly healed.—*Dublin Medical Press*, 1848.

BIRTHS & DEATHS IN THE METROPOLIS

During the week ending Saturday, Oct. 7.

BIRTHS.		DEATHS.		*Av. of 5 Sum.*	
Males....	642	Males....	502	Males....	581
Females..	631	Females..	503	Females..	573
	1273		1005		1154

CAUSES OF DEATH.		Av. of 5 Aut.
ALL CAUSES	1005	1154
SPECIFIED CAUSES..............	995	1149
1. *Zymotic* (or Epidemic, Endemic, Contagious) *Diseases* ..	430	270
Sporadic Diseases, viz.—		
2. Dropsy, Cancer, &c. of uncertain seat	48	52
3. Brain, Spinal Marrow, Nerves, and Senses	82	127
4. Lungs and other Organs of Respiration	107	222
5. Heart and Bloodvessels	36	38
6. Stomach, Liver, and other Organs of Digestion	45	67
7. Diseases of the Kidneys, &c...	9	12
8. Childbirth, Diseases of the Uterus, &c.................	6	14
9. Rhematism, Diseases of the Bones, Joints, &c.	6	8
10. Skin, Cellular Tissue, &c......	0	2
11. Old Age	42	64
12. Violence, Privation, Cold, and Intemperance	16	32

The following is a selection of the numbers of Deaths from the most important special causes:

Small-pox	31	Paralysis........	15
Measles	17	Convulsions	25
Scarlatina	180	Bronchitis	32
Hooping-cough..	31	Pneumonia......	58
Diarrhœa	47	Phthisis	88
Cholera	13	Dis. of Lungs, &c.	9
Typhus	65	Teething	3
Dropsy..........	28	Dis. Stomach, &c.	2
Sudden deaths ..	6	Dis. of Liver, &c.	6
Hydrocephalus..	17	Childbirth	4
Apoplexy........	20	Dis. of Uterus, &c.	1

REMARKS.—The total number of deaths was 149 *below* the weekly *autumnal* average. This return would have been still more favourable but for the extraordinary fatality of scarlatina. This disease alone caused 180 deaths, to a weekly average of 47: and 175 of these deaths were among children. The fatal cases of cholera were 13, and the details are elsewhere given, see p. 640.

METEOROLOGICAL SUMMARY.

Mean Height of Barometer				29·79
" " Thermometer[a]				60·3
Self-registering do.[b]	max.	91·8	min.	34·
" in the Thames water	—	60·8	—	57·2

[a] From 12 observations daily. [b] Sun.

RAIN, in inches, 0·26: sum of the daily observations taken at 9 o'clock.

Meteorological.—The mean temperature of the week was no less than 11°·4 above the mean of the month.

BOOKS & PERIODICALS RECEIVED

DURING THE WEEK.

Anæsthetic Midwifery. Report on its early History and Progress. By Dr. J. Y. Simpson.

Journal of Public Health. October 1848.

Oesterreichische medicinische Wochenschrift. Nos. 23, 24, 25, 26. Juin 1848.

Medicinische Jahrbücher. Juin 1848.

British Record of Obstetric Medicine and Surgery. October 1848.

Casper's Wochenschrift der gesammten Heilkunde. No. 31. Sept. 16, 1848.

Neligan on Eruptions of the Scalp.

Zeitschrift für die gesammte Medicin. Oppenheim. H. 4, B. 38.

The Journal of Psychological Medicine. October 1848.

Guy's Hospital Reports. Vol. VI. Part 1, Oct. 1848.

Hand-Book of Physiology. By William Senhouse Kirkes, M.D.; assisted by James Paget, Lecturer on General Anatomy and Physiology at St. Bartholomew's Hospital.

NOTICES TO CORRESPONDENTS.

Dr. Butler Lane.—We shall feel obliged if our correspondent will send another copy. That which has been forwarded cannot be found.

RECEIVED.—Dr. Shearman—Mr. Hayden—Mr. Hanks—M. C. F. Cloan (?)—Dr. Barclay.

THE GENERAL INDEX.

We have to announce to our Subscribers that a GENERAL INDEX to the *first* 40 *Volumes* of the LONDON MEDICAL GAZETTE will, it is calculated, form a large Volume of about 700 pages. The cost of the INDEX VOLUME, respecting which many inquiries have been made, will be Twenty-four Shillings; and it is proposed to commence it so soon as the Names of *Five Hundred Subscribers* have been obtained.—The printers, Messrs. WILSON AND OGILVY, 57, Skinner Street, will receive the Names of Subscribers.

Lectures.

LECTURES ON PRETERNATURAL AND COMPLEX PARTURITION.

By Edward W. Murphy, A.M. M.D.
Professor of Midwifery, University College, London.

Lecture II.

PRETERNATURAL LABOURS: BREECH, FEET, KNEE PRESENTATIONS.

Preternatural labours — definition — division. 1st. The inverted position of the child —breech, foot, knee presentations. 2d. Transverse positions—shoulder and arm presentations—mechanism of breech presentations—anterior dorsal positions—posterior dorsal positions—symptoms and signs of breech presentations—Treatment and mode of delivery—rotation of the child in posterior dorsal positions—accidents from neglecting it.

Presentation of the feet—symptoms—diagnosis—Knee presentations—diagnosis—sources of error—treatment. Complications—hand and foot—twins locked in each other—Statistics.

Gentlemen,—*Preternatural labours* are those in which some other part of the child than the head presents: they form another exception to Denman's definition of natural labour. Speculative writers have indulged in the opportunity thus allowed them to exercise their fancy, and have figured and described an endless variety of preternatural positions; in fact, there is no part of the child that could present in the pelvis that has not been made the subject of description: they detail not only presentations of the arm, foot, and breech, but also those of the back, abdomen, ribs, &c. I have never met with these last positions unless when the disproportion between the child and pelvis was so great, in consequence of the smallness of the child, as to account for so unusual a deviation. If the pelvis were large, a seven months' child, or a putrid child, could be forced into it in this irregular way. It is, however, of more practical importance to direct your attention to those varieties of preternatural positions which happen when the child is fully grown, and the pelvis of its ordinary dimensions: it is in such cases interference is most frequently required; and upon the skill of the operator will depend the safety of the child.

Preternatural presentations may be divided into two classes:—

1st. Those in which the usual *position* of the child is *reversed*, and the lower part of the body presents at the pelvis in place of the head.

2d. Those where the *child lies transversely* across the uterus, the body resting obliquely on the brim of the pelvis, so that the shoulder presents in place of the head. This is called in popular language "a cross-birth."

In the *first division* we find presentations of the *breech, foot, knee, hip*, &c. The *second* is confined to those of the *shoulder and arm*.

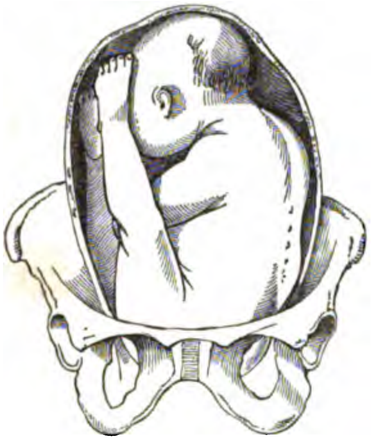
Breech presentations afford the best examples of the *inverted position* of the child, which may, nevertheless, pass safely through the pelvis, although the chances of failure are immeasurably greater than when the child is in its usual situation presenting the head. A little reflection on the inverted position of the child in the uterus is sufficient to show why this should be the case. The child forms on oval figure, the back strongly curved, the head resting upon the chest, and the limbs doubled upon the abdomen.

When the head presents, the widest part of the oval is dependant, and the efforts of the uterus to advance the child tend to maintain this form: the head, resisted by the pelvis, is pressed more against the chest, while the limbs are compressed by the uterus against the abdomen; but when the position is reversed the smaller curve of the oval first enters the brim, and, therefore, as the child advances, its passage must be more and more difficult. Besides this, there is the constant risk that the limbs of the child, as they enter the pelvic cavity, may drop down, the oval disappear, and the straightened body of the child act like a long and narrow wedge, imperfectly dilating the passages; the circulation of the funis, also, may be interrupted, and the delivery of the head impeded, if not prevented, in consequence of the passages being so insufficiently prepared. For these reasons interference is generally necessary to aid the delivery of the child, and to preserve it from injury. In too many instances its life has been needlessly sacrificed from awkwardness; and as the responsibility of any mismanagement must rest on the practitioner, it becomes a matter of importance clearly to understand these positions, to study the manner in which they pass through the pelvis, and to have a correct idea of the *mechanism* of their delivery.

The child may enter the pelvis with the back looking forwards, so as to correspond to its anterior or pubic segment, or the abdomen and limbs of the child may occupy the same position. It passes into the cavity either in the right or left oblique measurement of the pelvis. Hence, like head presentations, *four positions of the breech* may be described—*the right and left anterior dorsal*, and *the right and left posterior dorsal positions*. For all practical purposes, however, these may be reduced to two—*the anterior dorsal* and *posterior dorsal positions*.

The anterior dorsal position is the most frequent; and when the breech enters the brim thus—if it pass like the first position of the head in the right oblique measurement of the pelvis, the sacrum will correspond to the plane of the left ischium, and the thighs and genitals to the right sacro-iliac synchondrosis. In its descent the breech observes the same law as the head: it enters the pelvic cavity obliquely—that is, the side of the breech next to the pubis descends lower than that next to the sacrum, and this position is retained throughout. If the limbs are not disturbed, and do not escape from the vagina, the lower part of the body of the child will pass in this oblique direction safely over the perineum, and be expelled. The shoulders then enter the pelvic cavity in the opposite (the left oblique) measurement, the arms folded, and corresponding to the right sacro-iliac synchondrosis. If the action of the uterus maintain sufficient pressure on the head so that the chin continues resting on the chest, the head will enter the brim in the same measurement as the breech, having its shortest axis (the occipito-bregmatic) coincident with it. Consequently, the head may pass through and be delivered in this position quite as safely as in the usual manner. Assistance is not, therefore, absolutely necessary if these natural laws be observed, and the action of the uterus is adequate to its object; but this seldom happens, since there are many causes in operation to disturb and derange the order of delivery, which we shall presently consider. The breech may also enter the pelvic cavity at the opposite side, having the sacrum applied to the plane of the right ischium (the second anterior dorsal position). In this case the child passes through it in a similar manner as the former position, the relation to the pelvis being reversed.

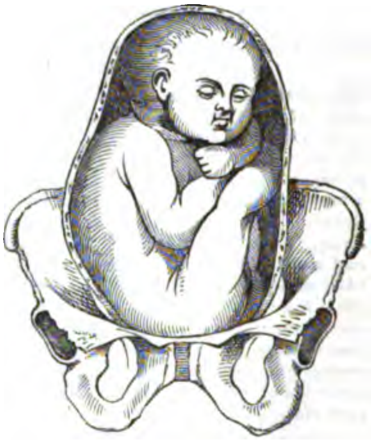
FIG. 3.



Anterior dorsal position.

The posterior dorsal position may enter the pelvic cavity like the third or left fronto-cotyloid position of the head. The sacrum, then, corresponds to the right sacro-iliac synchondrosis, the thighs to the plane of the left ischium, and the nates lie obliquely in the cavity, descending more on the pubic than on the sacral side of the pelvis. Here, also, the same law is observed as in third positions of the head, the breech rotates from this position into the second anterior dorsal—or, in other words, the sacrum of the child glides from the sacro-iliac synchondrosis to the plane of the ischium on the same side of the pelvis, and is delivered with the back of the child looking forwards. The same rotation takes place when the breech enters the left side of the pelvis posteriorly (the left posterior dorsal position); and thus it is possible for the child to pass through and be delivered without assistance in any of these directions. It is, however, much more exposed to accidents in the latter than in the former (the anterior dorsal) position. Naegele, to whom we are chiefly indebted for directing attention to this interesting subject, describes a remarkable exception which is sometimes met with when the child passes down with the abdomen forwards. The rotation takes place in a direction the reverse of what is usual; that is, when the breech descends, having the sa-

FIG. 4.



Posterior dorsal position.

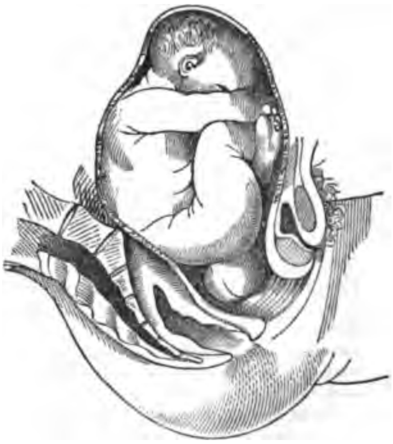
crum corresponding to the left sacro-iliac synchondrosis, and the thighs to the plane of the right ischium, the abdomen, in place of turning back towards the right sacro-iliac synchondrosis, first moves forwards behind the pubis, and then sweeps completely round to the left sacro-iliac synchondrosis, and is delivered in a position the exact converse to that in which it first descended. I believe that these curious deviations are not confined to breech presentations. I have met with cases where the head entered the pelvis in the third (left fronto-cotyloid) position, and was expelled, not in the second, but in the first position; and in the same manner when the head was delivered with the face looking upwards to the right thigh of the mother (the first position), the shoulders and body, as they descended, rotated so completely that the face turned round to the opposite direction, and looked downwards to the left thigh.

This brief outline of the manner in which breech presentations pass through the pelvis is sufficient to point out the provisions that Nature has made to secure the safety of the child, independently of all assistance, and to prove the importance of adhering to her principle in all attempts to deliver by manual interference. In fact, the chief cause of infant mortality, in cases of this description, is the too precipitate intermeddling with this process, by which means the position of the child, and the whole order of its progress, is completely deranged. If, for instance, the limbs of the child are prematurely seized, and brought rapidly down for the purpose of delivery, the whole body of the child is straightened, the chin leaves the chest, the arms are thrown up, the head presents perhaps the occipito-mental (the longest) measurement to the brim of the pelvis, and the arms lying at each side of the head may still further impede its advance, and render delivery extremely difficult: the delay generally causes the death of the child.

The symptoms that accompany these presentations — and, indeed, preternatural labours generally—differ in some degree from natural labours. *The pains are not so powerful, and the intervals are longer*—the vagina suffers less distension than when the head is forcing its way through the passages: and hence the stimulus to the action of the uterus which arises from the irritation of the vagina being diminished, the pains are weaker. *Auscultation* also gives some, but by no means a certain indication of this presentation: the fœtal heart is heard higher up, more in the neighbourhood of the umbilicus, and sometimes in the lumbar region: the *meconium* may also be observed colouring the vaginal discharge.

Digital examination is, however, the only accurate means of determining this presentation. Usually one buttock, the most dependant, is found to occupy the pelvis: this is smooth, equal, and if pressed firmly, bone is felt imbedded in the soft surface; this is the tuber of the ischium, which could scarcely be mistaken for the vertex. Still, there is the possibility of mistaking it for other positions. For instance, the shoulder may present in such a manner as to resemble the breech—the same soft, smooth, round tumor is felt covering a point of bone; and although the difference in size between the head and shoulder might be sufficiently apparent to prevent mistake, yet in some cases it is not so, especially when the presentation is high in the pelvis, and the os uteri not much dilated. Some diagnostic mark is necessary, which can readily be obtained by passing the finger sufficiently high to place it within the fold formed by the limb of the child. If it be the thigh, the genitals are immediately felt, which proves that the breech is presenting. If the arm, the ribs may be distinctly traced as the finger presses the thorax. Great caution is necessary in making such examinations lest the genitals may be injured: the scrotum frequently suffers from imprudence on the part of the practitioner: it is sometimes so compressed between the thighs as to swell up to a very large size: this is increased by frequent examinations, which are repeated because the large tumor that is formed is too often an enigma; extreme congestion is the result, and in some instances the parts have sloughed. Some awkward blunders, also, have been made. I have been told by a medical friend of one instance, where this swollen scrotum and its contents had been cut away in mistake for a tumor, that was supposed to prevent the delivery of the child.

FIG. 5.



Swollen scrotum from pressure.

Even the face may present in such a manner as to cause some little embarrassment: the cheek, when swollen, communicates the sensation of a soft, smooth surface, beneath which the malar bone is felt, just like the tuber of the ischium. This can only happen, however, in the beginning of labour, because, as the os uteri dilates, and the presentation descends, the remaining features may be ascertained, and remove any doubt. When the nature of the case is ascertained, the next question is

The treatment and mode of delivery.—It is obvious from what has been said, that all attempts to interfere while the breech is passing through the pelvis are premature and injudicious. It should be left to itself so long as the pains are advancing the presentation, until it arrives at the vulva, or even passes beyond it. There is here the risk that the perineum may be torn by the sudden expulsion of the limbs of the child: when they are delivered, the funis may be compressed as the shoulders and head pass through the brim of the pelvis, and lastly, the head itself may change its position, separate from the chest, and become fixed, with its longest axis lying across the pelvis. Although it is possible that the child may escape all these accidents, and be delivered without aid, still it is generally necessary to assist, and, therefore, we shall explain

The mode of delivery.—As soon as the breech appears beyond the vulva, the back of the child should be grasped by one hand just above the pelvis, while the other is passed between the perineum and the limbs, in order to bring down the feet: the leg or the knee may be brought within the fingers, and pressed down along the hand in such a manner that it escapes from the vulva without touching the perineum: the remaining leg may in a similar manner be brought out. When this is accomplished, the next object of attention is the funis, which should be drawn down beyond the vulva; the coils that lie in the vagina are thus removed, and the state of its pulsations can be more conveniently examined. It would be advisable, also, to place the cord as nearly as possible over either sacro-iliac-synchondrosis, in order that the projecting promontory of the sacrum may secure it from the pressure of the head. The body of the child should now be drawn down by the hand that has grasped the back sufficiently to allow the opposite hand to reach the top of the shoulder. In order to do so, it should be directed along the back of the thorax, and when the shoulder is reached, the hand should be passed over it to the front of the thorax, carrying the arm along with it down the body of the child and out of the vagina. Great care is necessary in this manipulation, lest the fragile bones of the infant be broken: the clavicle and humerus have sometimes been fractured through violence. When the remaining arm and shoulders have been extracted, the most difficult part of the operation, the delivery of the head, still remains. In order to remove it safely, the first object should be to correct any malposition that may have occurred. The chin must be brought down upon the chest, and retained in that position. This is generally effected by passing the finger of the introduced hand into the mouth of the child, but this alone is not sufficient: the opposite hand should be passed up to the back of the head, so as to press firmly with two fingers against the occiput, while the mouth is drawn down in the manner described.

It is sometimes difficult to alter the position in this way, and it may be necessary to pass the fingers along the face towards the forehead, so that they may press it down like a vectis; but this is seldom required. The head should be extracted as quickly as possible, because the funis is now exposed to a dangerous pressure. In the act of extraction, the direction of the head should be changed as it passes through the pelvis. Before the head presses upon the perineum, the direction of the force should be in the axis of the brim, but afterwards in the axis of the outlet. The head, as it descends, should also be rotated from the lateral towards the antero-posterior measurement of the pelvis, and during the whole of this manipulation the perineum must be carefully supported.

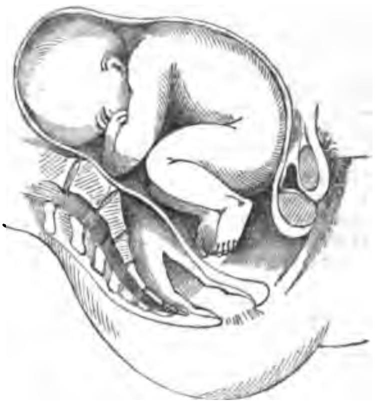
The chief object of interference in breech presentations is the preservation of the child: the pulsation of the funis should, therefore, be carefully observed during the delivery. If its rate be much increased, or if the arteries beat feebly, the child should be extracted as rapidly as possible. In such a case, there is not time to wait for the return of the pains—it would be advisable, therefore, that an assistant should press on the fundus uteri firmly with both hands, in order to cause its more efficient contraction as the child is being exhausted. When the uterus acts strongly, the head is less likely to change its position, and the force of the pain should be as much as possible increased, to prevent the straightening of the head, which otherwise would take place when the body of the child was drawn rapidly down.

In the delivery of posterior-dorsal positions, it is very necessary to *recollect the rotation of the child* as it passes through the pelvic cavity; neglecting to aid this change of position, or the ignorance of the attendant respecting it, has been a frequent cause of the child's death. It generally happens that the child is drawn down very hastily, but in the wrong direction,—the head is thrown up, and the chin rests on the linea ileo-pectinea. Further efforts to extract have only the effect of bringing the head into such a position that the face looks quite upwards, and the occiput descends upon the back of the child; and although it is possible that the head may be so delivered, still it is very unlikely; it is far more probable that it becomes fixed in the brim of the pelvis, the longest measurement of the head (the occipito-mental) being drawn into its oblique axis, and there arrested: the death of the child is a necessary consequence, the funis being so long compressed. This event may be hastened, and all chance of saving the child lost, by further mismanagement. An attempt is often made to alter the position of the head, by twisting the body that is expelled, so that the back may be brought round to the anterior side of the pelvis: the head, however, refuses to move, and the child is strangled, if we can use such a term where there is no respiration. In this dilemma additional aid is hastily summoned, and the consultant finds all but the head of the child delivered, which he is told every effort failed to remove, in consequence of the contraction of the pelvis! In such cases the first object of attention is the funis; if it pulsate, it is better at once to apply the vectis in the oblique measurement of the pelvis, opposite to that in which the head is arrested, to raise the head from its situation, and to turn it towards the sacro-iliac-synchondrosis of the same side; when this is accomplished the vectis may be withdrawn, and a finger passed into the mouth of the child to bring down the head and complete the delivery. If this be done adroitly, and with promptitude, the child may yet be saved: sometimes the vectis may be dispensed with. It is sufficient to pass two fingers along the cheek to press round the head towards the sacro-iliac articulation, and when the position is thus changed to deliver as before. If the pulsation in the funis have ceased, there is no need for haste, the head may be extracted by the hands alone, or, if wedged in the brim, the cranium may be perforated behind the ear or through the mouth, the crotchet introduced, and the head brought down.

We have stated to you that the natural efforts to deliver breech presentations should not be interrupted until there was some risk of injury either to the perineum or to the child: the time, therefore, for interference, is usually when the breech has passed the vulva; but there are exceptions to this rule. In some cases the pains are feeble, and return at long intervals, the child descends very slowly through the passages, and the funis is often exposed too long to pressure at the brim of the pelvis. It would not, therefore, be advisable to allow the breech to continue to move so slowly through the vagina; the action of the fœtal heart should be ascertained, and, if necessary, its progress should be assisted—but assisted on the principle we have endeavoured to lay down. An assistant should press firmly over the fundus uteri to increase the effect of the pains, while the practitioner, placing one or two fingers within the fold of the groin, draws it gently down with the pain; a moderate dose of ergot of rye would also be serviceable to stimulate the action of the uterus. In these instances of premature interference, the difficulty of delivery is always increased, because the head is seldom brought into the pelvis in a position so favourable as it would have been if the uterus alone expelled the child; consequently the risk to it is greater, and its safety will depend entirely on the skill and intelligence of the practitioner who undertakes the operation: hence may be inferred the importance of studying the mechanism of these presentations.

Presentations of the feet are more hazardous to the child than breech positions, because the soft parts are so imperfectly dilated by them, the pains are weaker, and the funis is more exposed to injury during the progress of delivery. In all such cases, therefore, assistance is generally required. One or both may present sometimes in such a manner that the case is more like an imperfect breech presentation; that is, the breech descending with the feet and limbs, doubled up on the body of the child, is arrested by the brim of the pelvis: the action of the uterus is directed from the breech to the limbs, which are forced down into the vagina, and thus constitute a footling presentation. They may be divided in the same manner as breech presentations into *anterior dorsal* positions, in which the toes look towards the sacral side, and *posterior-dorsal*

Fig. 6.



Presentation of Feet.

positions, when they are on the pubic side of the pelvis.

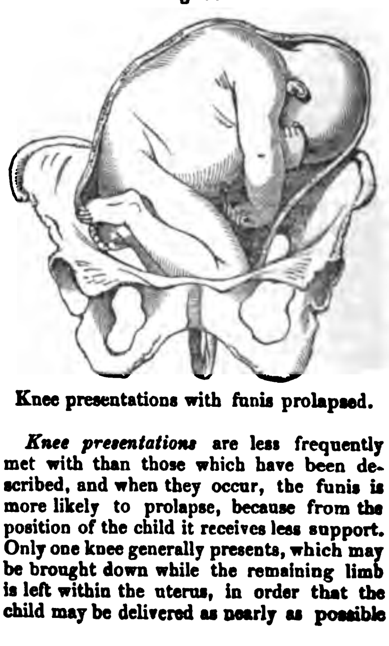
The symptoms that accompany these labours are also similar to breech cases; the pains are short, apparently inefficient, return slowly, and the duration of labour may be consequently protracted. The os uteri is less perfectly dilated in footling than in breech cases, and before the membranes are ruptured, it is sometimes very difficult to feel the presenting part, and equally so to determine what it is when it comes within reach; the foot and the hand may be easily mistaken for each other, because, being surrounded by the liquor amnii and membranes, an accurate examination cannot be made. It is very important, therefore, to educate the sense of touch as perfectly as possible, to take every opportunity of feeling the hands and feet of the child, so as to accustom the fingers to the sensation they communicate, and thus to acquire a facility in making these examinations. This may be practised with any infant after its birth. When an accurate sense of touch is acquired, the foot may be detected through the membranes, although only a small part of it is felt, but otherwise it is very difficult. The fingers when extended resemble the toes. When the foot is pressed up against the leg, the ankle is like the elbow: the knee and elbow also resemble each other. *The diagnosis* is best made when the waters are discharged. The toes differ from the fingers in being shorter and of more equal length; the great toe is not so far apart from the others as the thumb is from the fingers; but the most certain means of distinguishing one from the other, is by folding, or attempting to fold, the phalanges; the fingers can easily be doubled and the hand closed, but the toes cannot. The condyles of *the ankle* and *elbow joints* resemble each other very much; the calcis communicates the same sensation as the olecranon process, and the foot being very long in proportion to the leg against which it often lies closely applied, resembles in some degree the fore-arm, the latter, however, being round and smaller near the hand, while the sole of the foot is flatter and broader near the toes: the distinction is easy if the finger be passed sufficiently high along the limb to make a careful examination of it.

The knee joint bears a closer resemblance than the ankle to the elbow joint. It feels, however, rounder, and is without any projecting point of bone like either the calcis or olecranon: the patella may be felt, but it is so small, and is often so imbedded in fat, that it is not easily perceived.

The treatment of footling cases is similar to breech presentations, only that manual interference is more absolutely required to save the child. Before any attempt to deliver is made, the presentation should be carefully examined, in order to ascertain whether the breech be within reach, because if it be possible for the breech to descend in place of the foot, a great advantage would be gained. In those cases, therefore, where the breech is found resting on the brim of the pelvis, the foot should be prevented descending into the vagina; rather press up the foot during a pain, so as to get the breech more towards the pelvic cavity: it might even be possible to hook a finger in the groin and bring the breech down. So long as the funis is safe from pressure, it would be advisable to delay the delivery, in order to give the uterus time to effect this change; but if the cord comes down, any delay is dangerous to the child.

If delivery be essential, your next object is to convert the case, if possible, into a semi-breech position; that is, to bring down one foot only, and to prevent the other leg descending at the same time. This will have a useful effect on the dilatation of the passages, which is the great cause of difficulty in the safe delivery of these cases. If you cannot succeed, and that both feet come down, the child must be extracted as soon as possible; and to aid this object you should endeavour to dilate the perineum as much as possible with the hand that is introduced into the vagina. This may be done by pressing the back of the hand firmly against the floor of the vagina, perineum, and coccyx, while the child is being delivered: the distension excites the uterus to more powerful action.

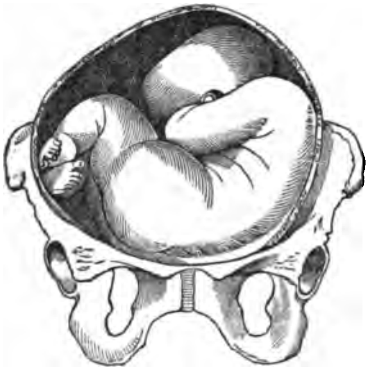
Fig. 7.



Knee presentations with funis prolapsed.

Knee presentations are less frequently met with than those which have been described, and when they occur, the funis is more likely to prolapse, because from the position of the child it receives less support. Only one knee generally presents, which may be brought down while the remaining limb is left within the uterus, in order that the child may be delivered as nearly as possible as a breech case. The time for delivery must be determined by the state of the funis. If it is safe, the more time that is allowed for the dilatation of the os uteri the better; but if it prolapse, you cannot wait without endangering the child.

Fig. 8.



Hip presentation.

Hip presentations rarely occur; they are, in fact, only a variety of breech positions, and should be similarly treated; the child lies with the hip across the pelvis, presenting a round soft surface, covering a bony prominence (the trochanter): the fold of the thigh on the abdomen, and the spinous process of the ischium, may also be felt. As labour advances, this position will correct itself, and the breech descend into the pelvic cavity.

A distorted pelvis may accompany any of these presentations, which greatly increases the difficulty of delivery, especially in the extraction of the head; the child is therefore generally lost, as it seldom happens that the funis escapes pressure; nevertheless this is possible if the promontory of the sacrum project much, and the funis is placed near the sacro-iliac synchondrosis. If this should happen in the *ovate pelvis*, it is possible that steady traction in the axis of the brim may succeed in bringing the head through it before the pulsation has ceased; and, if so, it may be easily removed from the cavity of the pelvis, and the child preserved; but in other deformities the child seldom escapes—the pulsation in the funis soon ceases. When the child is certainly dead, it is better to perforate behind the ear or through the mouth, to evacuate as much of the brain as possible, and to draw down the head with the crotchet: this practice is preferable to making violent efforts to extract the head by pulling at the body with all your strength, as is sometimes done. Such violence is especially objectionable when the child is living, because it is the most certain means of destroying it that can be adopted. At this tender age the odontoid process has only a ligamentous union with the vertebra dentata: it may easily be broken off, and death thus caused. The effect of concussion on the nervous centres, also, should be considered. I have seen (I could almost say frequently) cases thus delivered in which the child was still-born, and, from its appearance, gave every evidence that death was caused, not by pressure on the funis, but by nervous shock: the heart and respiratory nerves were paralysed, so that no stimulus could excite them.

Complications sometimes accompany these presentations that require notice. *The hand and foot* may present together in such a manner as to make it difficult to distinguish them. When the membranes are ruptured, a careful examination should be made, and the foot brought down, in order to convert the case more completely into a footling presentation: if the funis is safe, it is better not to interfere further, but to leave the case for some time to the natural efforts, in order that the passages may be better prepared for delivery. If the membranes are entire, no accident can occur so long as the waters are retained in the uterus; and, therefore, interference is unnecessary. A complication of a singular character has been recorded in which delivery was rendered extremely difficult. The late Dr. T. Ferguson, of Dublin, relates a case of twins in which the first child presented the foot, and was delivered without any unusual obstacle in the progress of the labour until the child's body was so far protruded as to enable Dr. Ferguson to ascertain, by the pulsation of the funis, then without the os externum, that the child was alive. From this stage of the delivery he began to experience a most unusual and unaccountable resistance to the further descent of the child.* This difficulty was produced by the head of the second child descending before the head of the first, so that each locked in the other. The pulsation in the funis of the first child continuing, Dr. Ferguson wished to perforate the head of the second, that caused the obstruction: there was some delay in obtaining instruments; and, in the interval, the pulsation of the first child ceased; but, to the surprise of Dr. Ferguson, powerful expulsive pains forced down the heads of both over the perineum, and the second child was born living! Two years ago, Mr. Elton, of Windsor, related a similar case. The feet of the first child presented, and were brought down; but, "after the thighs had passed, the delivery became slow and increasingly difficult; the abdomen suffered great compression in passing; the thorax still more; the difficulty became greater with the further progress of the body; the arms were extracted with much trouble, and, it then being practicable, an examination was made.

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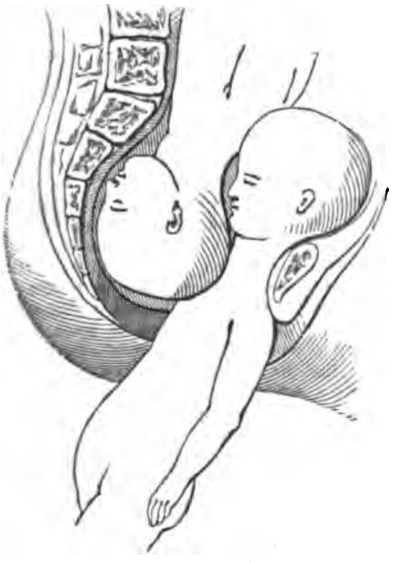
* Dub. Med. Trans. vol. i. p. 146.

FIG. 9.



Mr. Elton's Case.

I (Mr. Elton) found the vertex of a full-sized head presenting immediately over the breast in the position where there should have been a chin; the anterior base of the neck could be traced in close and compressed contact with the presenting head, the latter firmly impacted in the pelvic cavity."* Mr. Elton divided the neck of the first child; and, having removed the truncated body, applied the forceps to the second child, which he delivered, but could not save, although attempts "to restore animation were long and anxiously continued." What is to be done in such a case as this? I certainly should not be disposed to destroy either child. Before I took up the perforator or the amputating knife, I should weigh well the practicability of applying the long forceps to the head of the second child, and endeavour to imitate nature in the effort to force both heads over the perineum. If you succeeded, its laceration might be the consequence; but it would be some recompense to save a life that otherwise you must destroy.

The *statistics* of preternatural labours prove that their frequency is in the proportion of one in every thirty or forty labours; and of these, presentations of the breech are the most frequent; those of the feet next in order, and shoulder positions the rarest. We find, also, that a large proportion of these cases are premature deliveries, many of the children being putrid. Hence we would infer that in many instances this deviation from the natural position of the child is caused by its unusual mobility in the uterus at the time of labour. The child being small (premature), and the liquor amnii abundant, its position is liable to be constantly disturbed by the action of the uterus; and if the membranes were ruptured suddenly, the child would most likely be forced down into the pelvis in a preternatural position. A full-grown child might also be displaced by any sudden and violent action of the uterine fibres, the result of shock, during pregnancy. Putrid children are especially liable to this displacement, because labour is generally induced because of the death of the fœtus, and not in consequence of the descent of the child on the cervix uteri: hence the uterus protrudes the inert mass from its cavity through the pelvis in whatever form it may have assumed at the time that the expulsive action of the uterus was so excited.

The following statistical results are taken from tables formed by Drs. Collins, Hardy and M'Clintock, and derived from their reports of the Dublin Lying-in Hospital:—

Total Preternatural Labours.

	Total cases.	Preter-natural.	1 in	Breech.	1 in	Feet.	1 in	Shoulder	1 in
Collins	16,414	409	40	242	68	127	128½	40	410
Hardy and M'Clintock	6,634	227	29	101	65½	38	174½	26	255
	23,048	636	362	343	67	165	139½	66	341

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* MEDICAL GAZETTE, July 24, 1846, p. 152.

Breech Presentations, 343.

					Premature.		
	Living.	Dead.	Total.	Putrid.	Living.	Dead.	Putrid.
Boys . .	131	61	192				
Girls . .	102	49	151				
	233	110	343	63	18	17	39

Feet Presentations, 165.

	Living.	Dead.	Total.	Putrid.
Boys	42	32	74	
Girls	43	48	91	
	85	80	165	54

CLINICAL LECTURE
ON THE
TREATMENT OF RHEUMATIC FEVER,

Delivered at King's College Hospital,

By R. B. Todd, M.D. F.R.S.
Physician to the Hospital.

(*Reported by* Mr. H. H. Salter, Med. Schol. K.C.L.)

Lecture VI.

In my last lecture, gentlemen, after having passed in review six different methods of treating rheumatic fever, I particularly commended to your attention one which we have been in the habit of using here, the object of which is to promote as much as possible the elimination of morbid matters from the system through the natural emunctories—through the skin, through the kidneys, through the blood. I advised you to use opium freely, and nitre, and to give alkaline purgatives, and to relieve the pain and swelling of the joints by enveloping them in cotton wool surrounded by oiled silk. And all this I ventured to recommend to you in preference either to the plan of treatment by venesection, or that of colchicum or guaiacum, or that by calomel.

Now it may sometimes happen that you will have to deal with a patient who is unable to take opium. What are you to do under these circumstances? There is no reason why you should change the general plan of treatment—you may still give sudorifics—and if your patient will bear sedatives, you can give hyoscyamus, or hop, or extract of lettuce. But it will, I believe, very seldom happen, that in this severe and painful malady, patients will be unable to bear opium in some shape or other, and the benefits to be derived from the proper use of this drug are so great that you ought to try it in various ways, and in different preparations, before you abandon it altogether. I think that practitioners often fail in obtaining all the good effects of opium from being too timid in the use of it, giving it in too small a dose, and employing it in a vacillating manner: you must give it in a large dose, not less than a grain, frequently repeated, taking the state of the pupils as your guide to encourage or deter you from proceeding with it. You will of course proceed with great caution if you find a very contracted pupil in addition to some degree of narcotism. Before you abandon the use of opium, remember that you have a great variety of forms in which to prescribe it,—you have, among others, the compound camphor tincture, which is often borne when the other preparations fail; the acetate and muriate of morphia; Mr. Battley's liquor opii sedativus; and a preparation introduced by Mr. Squire, the solution of the bimeconate of morphia, which may be given in the same doses as laudanum.

Again, it may happen, and this is by no means of unfrequent occurrence, that the swollen and painful state of the joints does not yield to the cotton wool and oiled silk only. What further treatment of the joints will you pursue? I have no hesitation in advising you to apply blisters; and I would recommend you to use every means in your power to get them to rise well. I do not think it advisable to apply *large* blisters; on the contrary, they are injurious, and their use is to be deprecated. The plan I generally follow is this: I order a small mustard cataplasm to be applied to the affected joint, and to be kept on for half an hour to redden the skin; after removal of this, the skin is to be carefully washed and dried, and the blister may then be applied; you must not let the size of this exceed that of a crown-piece. It is better to apply two or three small blisters in rapid succession, and to different parts of the joint, than one large blister. After the blister has risen well, if the swelling of the joint subsides quickly, as it very frequently does, you may let the blister heal as fast as it will; but if the swelling has not subsided, then you had better cut away the cuticle completely, and promote a free discharge from the blistered surface by dressing it with stimulating ointments.

You need not be afraid to apply blisters in the early stages of the rheumatic inflammation of the joints. I believe the dread which some physicians had, and have, of applying blisters near inflamed parts—as near an inflamed lung, or pleura, or pericardium—is theoretical, and not derived from any actual mischief which they had witnessed from the practice. I have applied them very early to rheumatic joints in numerous cases, and always with more or less advantage, provided the blisters have not been too large. A very large blister is extremely apt to do mischief, and augment the inflammation of the joint; but a small one, ranging in size from that of a crown to a half-crown, is almost invariably beneficial. When a very copious effusion has taken place into a joint, the plan of applying two or three small blisters in succession, at different parts of the joint, provided the first should fail in getting rid of the effusion, is productive of the best effects.

I have seen excellent results from the application of blisters to gouty joints, even in the most acute stage. A discharge of a large quantity of serum from the vessels of a gouty joint, has all the good effects of the abstraction of blood from it without any of the evil consequences of that mode of treatment.

You must exercise a proper caution not to carry the sweating or the purging process too far with your patients. It is impossible to lay down precise general rules on this subject: the state of the patient's pulse, his countenance, the mode in which he expresses his feelings, will sufficiently indicate the condition of his general powers to enable you to judge whether you are going too far or not. All I shall say on this point is, let this be your motto in the treatment of this disease, *ne quid nimis;* neither too much sweating, nor too much purging, nor too much opium. I need not caution you against too much bleeding, as I advise you to omit that from your practice altogether in the treatment of this malady.

All the world now knows how necessary it is in acute rheumatic cases—and, I would add, even in chronic also—to pay the closest attention to the heart. You should watch it from day to day, and from the very commencement of the attack; and if you find the smallest indication of a departure from its normal mode of action, attack it specially, and at once. Here *early* measures are of vital importance—*bis dat, qui cito dat.* I say you should watch the heart from the very first moment the patient comes under your charge; for the cardiac symptoms are apt to come on very early, and in some instances they precede the articular affection. In our patient Elizabeth Stocking, the cardiac symptoms must have developed themselves very early, as they were already well developed on her admission into the hospital.

The circumstances that will denote to you that the heart is beginning to suffer, are—irregularity of the pulse *in any way*, either as affecting its force or its rhythm—*i. e.* whether the intermission be partial or complete: or its becoming suddenly quicker or slower. Should any of these signs present themselves, you should at once institute the most minute scrutiny into the physical signs of the heart's action, and if you should find the slightest indication of a rubbing or bellows sound, you may infer that either the pericardium or endocardium, or both, are beginning to suffer. Disease of the endocardium is especially to be feared if the bellows sound is mitral systolic, *i. e.* if it be heard most distinctly over the apex of the heart, and accompany the first or systolic sound: under such circumstances, you may be sure that the endocardium is suffering, and that some portion of the mitral valve is implicated in the lesion. If, however, the systolic bellows sound be heard most distinctly over the *base* of the heart, and along the course of the great vessels, and is therefore aortic, you must not at once infer that this is a sure sign of the existence of endocarditis affecting the aortic valves: you must bear in mind that an aortic bellows sound may, and very frequently does, arise from an anæmic state of the system. I have already told you that the rheumatic state tends to diminish very much the proportion of the colouring matter of the blood even in patients who have not been bled or otherwise roughly treated. The rheumatic state itself, then, by bleaching the blood, may give rise to aortic and even venous murmurs. How much more likely to be produced is the condition favourable to these murmurs when bleeding has been practised? You must be very careful not to fall into the mistake of treating an aortic murmur as due to endocarditis, which is really the result of the already bleached state of the blood. Such a mistake is not unlikely to be made, as the diagnosis is difficult between the anæmic murmur and that from aortic obstruction; and you can readily understand how an antiphlogistic process, especially if it included bleeding, would make matters infinitely worse in a case where the murmur was simply of the anæmic kind. The more you proceeded with such a treatment, the more, of course, the conditions for the development of the bellows murmur would be developed, and the louder it would become. The following points will aid you in deciding upon the endocarditic character of the murmur:—1, if the sound come on very early in the disease; 2, if it be rough in character; 3, if it be not accompanied with venous murmur; 4, if the patient has not yet displayed much anæmia; lastly, the probability of an endocardial affection is much increased if the murmur have been ushered in with some disturbance of the heart's action such as I have already referred to.

In the treatment of the heart affection, I am in the habit of acting upon much the same principles as in the treatment of the joints, and I trust to free vesication and the promotion of a copious discharge, serous or sero-purulent, as the local treatment. I shall describe to you the plan I am in the habit of following, and which we have used with the most satisfactory results in Elizabeth Stocking's case. On the first indication or suspicion of heart affection, a large sinapism made with flour of mustard and hot water, is applied over and beyond the region of the heart. This is to be kept on as long as possible: after its removal, and after the skin has been properly cleansed, put on a blister of good size, and you must be guided as to the dimensions of it by your opinion of the extent of the heart which is affected. You need not be afraid of large blisters here, as in the treatment of the joints, because the inflamed organ is much more distant from the surface than the synovial or other articular tissues.

If you pursue the plan which I have thus pointed out, and have drawn a large quantity of blood to the surface by the long continued stimulation of mustard, you will generally succeed in producing very free and large vesication, from which you may obtain a considerable quantity of serum, or rather, I should say, of *liquor sanguinis*, for the fluid of the blister is serum containing more or less fibrine. If you examine the fluid from blisters, especially when the skin had been previously irritated by mustard, you will almost invariably find that it contains more or less of fibrine. In very many instances, if not in all, the coagulated fibrine disposes itself as a membranous layer in immediate juxta-position with the deep surface of the elevated cuticle. On removing the cuticle slowly and cautiously, the serum will not flow away: it is still retained by a very complete, but soft, moist, and almost spongy membrane. This is coagulated fibrine, which has entangled in it a large quantity of the white corpuscles. How these latter escape from the blood-vessels, or whether they are not the result of the organizing tendency of the liquor sanguinis, I cannot pretend to decide. It is clear, however, that blisters will take away the liquor sanguinis with its dissolved elements and perhaps the white corpuscles, which constitute more than four-fifths of the blood. By blistering, you take away that part of the blood which is the great agent in the development of new formations, and these are what you have to guard against in the cardiac inflammations. Moreover, by blistering, you spare that most important part of the blood, the colouring matter, which seems especially valuable for preserving the nervous functions in a state of integrity, and which is no less important for maintaining the healthy action of the heart.

But some of you will say, "What! do you advise us to lay aside that which has so long been regarded as the sheet-anchor in the treatment of inflammations—namely, bleeding, and not only general bleeding, but topical bleeding likewise? If we are neither to cup nor to leech in pericarditis or endocarditis, what security, then, shall we have against the progress of inflammation—against the formation of excrescences on the valves—against ulcerative or suppurative processes being established in the heart, destroying its valves, and infecting the blood?" I am quite aware that the doctrine which I recommend for your adoption is likely to be regarded as extremely heterodox by many, but I believe the number of those who would think so is daily diminishing. In the treatment of the cardiac affections which accompany rheumatic fever, you have two objects to keep in view: the first is to check the morbid process completely, or to restrain it from producing such changes as may prove destructive to the tissues, and consequently to the mechanism of the heart; and secondly, to obviate liquid effusions which may distend the pericardium, compress the heart, and so embarrass its actions, as well as the respiratory movements, as to prove seriously detrimental to life. Now, with regard to the first point, there can be little doubt that bleeding will not stop or prevent the formation of those fibrinous concretions which are so apt to form upon the valves. The formation of these concretions is in a great measure mechanical, and in certain states of the blood they would form around or upon any opposing material just as fibrin will coagulate round the bunch of twigs by which blood is beaten as it flows from a vein. In this rheumatic state, the contractile tendency of fibrin is apparently increased, as is shown by the uniform formation of a tough buffy coat in the blood removed from rheumatic subjects; there is also a considerable increase in the number of white corpuscles; the buffy coat is formed of these two constituents, and the constancy of its formation denotes a tendency in these two elements to separate from the other elements of the blood in the rheumatic state. Doubtless, a disturbed state of the nutrition of the serous membrane or the endocardium, or of certain parts of them, precedes the formation of fibrinous deposits upon them; and this disturbance of nutrition is caused by the accumulation of the rheumatic matter in the vessels of the part. The effect of this is analogous to, if not identical with, that produced by a blister on the vessels of the skin, which I have just now described to you. The liquor sanguinis, and probably the white corpuscles, transude through the parietes of the bloodvessels, and the plastic matter coagulates upon the surface of the endocardial and the pericardial membrane, forming there a substance identical, or nearly so, with the buffy coat of the blood. In the endocardium, which is in contact with the blood as it flows through the heart, this layer of plastic matter forms a nucleus, around which fibrin from the blood which flows over it may coagulate.

Now, if this be a correct account of the manner in which those plastic concretions develop themselves in pericarditis and endocarditis,—and I believe it is that which is most consistent with our present improved knowledge of the blood and of inflammation—it is evident that the object of the practitioner should be to prevent the development of that altered state of nutrition which precedes the fibrinous formations, or to cut it short after its formation. Then comes the question, will bleeding do this? I think our experience of the effects of bleeding upon the joints ought to convince us that it will not: for bleeding certainly will not remove the rheumatic state from them; for, however it may relieve for a short time by diminishing hyperæmia, the flow of blood speedily returns with greater activity than before. I apprehend that the state of the joints and that of the heart are as nearly as possible the same, the difference being that the nature of the synovial secretion offers a complete physical impediment to the formation of fibrinous or plastic concretions in the joints.

And I would put another question—will bleeding cut short that state of blood which is so favourable to the formation of the plastic deposits? To this I answer likewise in the negative. Among the best of the recent researches upon the relative quantities of the elements of the blood in various conditions of that fluid, are those of Becquerel and Rodier: what do these observers say as to the influence of bleeding upon the blood? Why, that it greatly diminishes the red particles, that it greatly augments the proportion of water; and that it affects but little or not at all the fibrin: thus, in short, you get a thinner liquor sanguinis holding in solution the same or nearly the same amount of fibrine. In other words, you get a state of liquor sanguinis very favourable to transudation, and therefore very favourable to plastic formations.

If, then, bleeding will not stop the inflammatory state which creates the undue determinations of the blood to the pericardial and endocardial surfaces, and if it will not prevent the plastic formations, but rather favour them, surely it is not the remedy for pericarditis and endocarditis. And if the effects of venesection be, as beyond all doubt they are, to diminish all the solids of the blood but the fibrine, and to augment the water, surely the employment of this treatment to a great extent is fraught with the greatest danger of creating liquid effusions into the serous and synovial sacs, which are so exposed to the action of the rheumatic matter.

These are, as concisely as I can put them before you, the theoretical grounds upon which I object to the practice of bleeding, whether local or general, for the cardiac affections of rheumatic fever. And my experience confirms me in the belief that the practice of bleeding is altogether unsatisfactory in its remedial results, and prejudicial in its consequences: and that the practice of abstaining from this mode of treatment is perfectly safe, and tends to the best results. By the general plan of elimination,—general through the sweating and other augmented processes of secretion,—local, by blisters,—you divert the rheumatic matter very freely from those great central and highly vascular organs which we are so anxious to protect from mischief.

Besides the local treatment that I have prescribed, you must, when the heart or any of the great internal organs is affected, avail yourselves freely of the antiphlogistic powers of mercury, and while you still keep up the influence of opium upon your patient, whereby you secure a powerful means of keeping down excessive action of the heart, you might conjoin with it calomel, in two or three doses, frequently repeated; and in cases where you desire to induce ptyalism with rapidity, you must rub in mercurial ointment into the groins or the axillæ, and you may dress the blisters in the cardiac with mercurial ointment.

I know that there are many physicians

who speak lightly of the remedial powers of mercury in these rheumatic affections. But I confess to you that I am not prepared to give up the dogma of Dr. Farre, that mercury is opposed to, and breaks down, plastic formations. Still I must admit, and this is satisfactory for patients who may be prevented by idiosyncrasy from the use of mercury, that I have seen patients do extremely well without having taken a single grain of that medicine.

You will bear in mind that both pneumonia and pleurisy are very common complications of rheumatic fever: but for the treatment of these affections I have nothing to add to what I have said respecting the treatment of the cardiac affections. The treatment of both should be exactly the same, *mutatis locis*.

There is a very formidable complication of rheumatic fever respecting which I must say a few words. I allude to the delirium which is apt to manifest itself in the course of the attack; sometimes with thoracic inflammation, sometimes without it. It is very important that you should be prepared for this symptom; and that you should understand its nature, and its proper mode of treatment: it is not in itself a dangerous symptom, unless the practitioner fails in taking the precautions which are rendered imperative by its occurrence.

The delirium of rheumatic fever sometimes comes on gradually, the patient having been a little talkative and wandering for two or three nights; sometimes it comes on quite suddenly. In its general characters it resembles delirium tremens—generally, however, exhibiting less of the nervous tremor which belongs to intemperance. The patient is restless, busy, talkative, picking or pulling the bed-clothes, frequently rising in bed, and wanting to get out of bed, reaching out his hand as if to catch hold of some object before or behind him—and sometimes, a most unfortunate symptom, obstinately refusing to take either food or medicine.

In some instances, as I have already said, this delirium ushers in pericarditis, pleurisy, or pneumonia; frequently, however, it occurs after one or other of these maladies has set in, and sometimes it occurs without them. It has, therefore, I think, no necessary connection with these internal inflammations, although it frequently accompanies them.

Now, what is the nature of this delirium? It used formerly to be viewed as a metastasis of rheumatism to the brain, and to be treated antiphlogistically. I have treated some cases in this way, and on this hypothesis, and I have had the opportunity, in consequence, I believe, of this treatment, of examining the state of the contents of the cranium in a few such cases: I can therefore assure you that there is no more inflammation, either of the brain or its membranes, in these cases than in delirium tremens. The membranes are perfectly free from abnormal deposit, the pia mater is pale, and the grey matter of the convolutions remarkably so, and the subarachnoid fluid is increased in quantity. These signs indicate, not only that the brain has been imperfectly supplied with blood during life, but that the vascular pressure upon it is less than it ought to be, and that, consequently, an increase of the subarachnoid fluid has taken place.

When, then, we consider the circumstances in which the brain is placed in these cases, we cannot wonder at its functions being disturbed. In the first place, the organ is supplied by a depraved blood—a blood deficient in its most important staminal principle, its colouring matter; a blood infected with an abnormal material, the rheumatic virus, whatever that may be; and if the patient, as is very often the case, have been treated by sanguineous depletions, a watery blood. Such a blood is ill suited for the proper stimulation of the heart, and, consequently, it is not propelled by that organ with its proper force, although the rapidity of the heart's action may be much increased. And if the heart be inflamed there can be no doubt that the effect of that inflammation will be to weaken its power. Hence, in cases of this kind, the brain is feebly furnished with a blood, poor in colouring matter, and abounding in water.

I have met with a few cases in which the patient, having evinced previously little or no delirium, has become rapidly comatose, with dilated pupils, and sunk quickly. And it sometimes happens that patients who have been actively delirious will suddenly fall into coma and die; and sometimes they die suddenly while making some effort, beyond their strength, in the midst of their delirious ravings. The state of the kidneys may have some influence in determining the mode of death in those patients who pass quickly into coma, as we know that defective action of that organ so often exercises a baneful influence on the brain.

You will find a valuable collection of cases of delirium and other disturbances of the nervous system, in connection with rheumatic cardiac affections, in Dr. George Burrows' interesting and most valuable work on disorders of the cerebral circulation. The evidence which Dr. Burrows has adduced in that work should teach us, that whenever we meet with a case of delirium, especially of rheumatic delirium, we should diligently explore the region of the heart, and watch the condition of that organ most carefully from day to day.

But this delirium, as I said before, has no *necessary* connexion with the heart affection—at least, with endocarditis and pericarditis, for it occurs in cases of general gout, in which there are no such heart affections as those in rheumatic fever, and the delirium of gout resembles precisely that which I have described to you as belonging to rheumatic fever.

I have seen, indeed, this delirium in persons of strongly-marked rheumatic or gouty diathesis, accompanied by all the signs of rheumatic fever—the sweats, the parched tongue, and the lithic urine, but without either cardiac or articular affection.

I may make this further remark before I refer to the mode of treating this delirium, that what I have seen of it has strongly impressed me with the belief that it is much more apt to occur after bleeding, and in weakly subjects, than when depletion by blood-letting has not been employed, or in sthenic cases. It is also, at times, an indication that your patient is being reduced too much by sweating, or purging, or some other means.

The development of this delirium should be the signal to the practitioner to exercise the greatest vigilance in looking out for cardiac or other internal inflammations, as pneumonia or pleurisy, or even peritonitis, which sometimes, although rarely, occurs in rheumatic fever: if such have not been previously detected. But it should likewise be looked upon as a signal of distress, denoting that the powers of the constitution are unequal to the severe trial through which the patient is passing; and he should immediately come to the patient's aid, and make instant arrangements for having him constantly watched by competent nurses or other attendants, taking care that the patient shall never be left alone. If he have been sweating freely, that must be checked; the amount of bed-clothes may be reduced: if his joints have been enveloped with wool, it must be removed. In like manner any other too free evacuation must be stopped, as purging, or the too copious discharge from a blister. Nourishment must be given very frequently, but in small quantities, so as not to embarrass the stomach; and this should consist of beef-tea, arrow-root, milk; and frequently it will be necessary to conjoin with this wine or brandy, or porter when that has been an habitual beverage. If the patient be wakeful, sleep must be procured by the free administration of opium. These are the points to which you will have to direct your most watchful care; provide against your patient being allowed to exert himself beyond his strength; remember that it is in this state that patients often die suddenly by syncope, and remember to nourish and support them well. Eschew all local treatment to the head; even the application of ice is calculated to do mischief, by depressing the heart's action.

When, however, the patient evinces a tendency to coma, then of course you will not use opium; then I would advise you to shave the head, and to counterirritate it and the back of the neck, by sinapisms first, and afterwards, if you find it necessary, by blisters, pursuing at the same time those measures for the support of the patient which I have already pointed out, and which you may be assured are not less necessary in the comatose cases than in those in which active delirium prevails.

I have already told you that you must be careful in carrying out this general plan of elimination with the closest attention and regard to the powers of your patient's constitution. I allude to this subject again, for the purpose of mentioning to you a sign which has over and over again proved most valuable to me, in leading me to pursue an altered course of treatment. When the patient has begun to pass pale urine, in good quantity, either without precipitate, or with a greater or less quantity of pale lithates, you will almost invariably find that he will be the better for a more generous treatment, even although the articular affection still continue troublesome. You may give him ammonia, or quinine and sulphuric acid, and in many instances you may give wine; and I have been astonished at the rapidity of the progress of cases under this altered treatment: cases which had been stationary for two or three days, have, under the circumstances and treatment I have described, become convalescent in little more than forty-eight hours.

The plan of treatment which I have now recommended to you does not contain any new remedy, nor does it profess to point to any summary method of treating rheumatic fever: it is merely the application of old and well-appreciated remedies to the treatment of this formidable malady, in furtherance with a certain determinate object—that of eliminating morbid matter, at various points and through different channels, from the current of the circulation. Since I have adopted this mode of treatment I have much more rarely met with those accidents of the disease—pneumonia, pericarditis, delirium, &c. which are so formidable to both the patient and the practitioner, in the same severe form which I used to do under a more depleting treatment; and when such severe cases do occur in the hospital, they are generally persons who have suffered from a depleting treatment prior to their admission, or who have been thrown into a very reduced state from other causes. Again, I find that under this treatment the duration of the disease does not exceed from ten days to three weeks, and that relapses, which were very frequent under the treatment by bleeding, are of very rare occurrence under this. Now it was formerly the dictum of a very eminent physician, "that the only cure for rheumatic fever was *six weeks*." By this he meant that the disease would take its course, that time was its only cure, and that this time was not less than six weeks. But I should not attach much importance to a plan of treatment which failed to get patients into a good state in a much shorter time than that. Our patient, Elizabeth Stocking, whose case has been a severe one, and who has had pericarditis and slight delirium, has been in the hospital now just eleven days, and had been ill three days prior to her admission, and you see that she is convalescent already. She has lost every rheumatic symptom; all the pains in her joints have ceased, her tongue is clean, and I have no doubt that in two or three days more she will be struck off the sick list altogether. And, as the last, though not least, advantage of this treatment, there is no fear of those unpleasant consequences which are so prone to follow in the wake of this disease; there is no fear of a tardy anæmic convalescence, for her blood has been spared; nor of a state of chronic rheumatism, for there is every indication that the whole of the morbid material has been eliminated from her system.

THE OBJECTS OF MEDICAL STUDY,
AND THE
SPIRIT IN WHICH THEY SHOULD BE PURSUED.

Being an Introductory Lecture delivered at the Medical School attached to the London Hospital, October 2, 1848,

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Gentlemen,—When honoured by the request of my colleagues that I should deliver the Introductory Lecture with which our Medical Session usually opens, I determined, after a little consideration, not to seek any other topic than that which has been customary, and which seems most appropriate, on such occasions—namely, the *objects* of medical study, and the *spirit* in which those objects should be pursued. For I reflected that, of the portion of my audience to which my discourse should be especially addressed, many would be hearers for the first time on such an occasion; and it seemed right that every student, at the commencement of his career, should have his attention somewhat formally directed to the nature of the labours and duties in which he is about to engage. And with regard to those to whom the subject has become hackneyed, I thought that even they might find something of novelty in it, arising from the freshness of the source from which it would emanate, and from the changes in its aspect which are the consequence of the progress of medical knowledge.

Without further preface, then, I shall invite your attention, in the first instance, to a survey of the principal objects of medical study. But I am desirous that, before we proceed with it, you should possess a definite idea of the relation subsisting between *science* and *art*. You hear medicine and surgery spoken of, sometimes under one designation, sometimes under the other; as if the two meant nearly the same thing, or as if it were not very certain which was the right term to apply. Now, as it is perfectly evident to every one who thinks himself clear upon the subject, that these two terms have very distinct meanings—that it is *not* a matter of indifference which we employ—and that in proportion to the definiteness of our conceptions will be our success in realising them—I shall dwell for a few minutes on the inquiry into their proper acceptation, and their relations with our own objects of professional inquiry. I cannot adopt a better definition of these terms, than that which has been recently given by one of the ablest reasoners of our time, Mr. John Mill, in his Treatise on Political Economy. "These two ideas," he says, "differ from one another as the understanding differs from the will, or as the indicative mood in grammar differs from the imperative. The one deals in facts, the other in precepts. Science is a collection of *truths*; art a body of *rules* or directions for conduct. The language of science is—this is, or this is not; this does, or does not, happen. The language of art is—do this; avoid that. Science takes cognizance of a phenomenon, and endeavours to discover its law; art proposes to itself an end, and looks out for means to effect it."

Now those arts or collections of rules for a given purpose, are the most complete and the most perfect in their application, which are built up on the most secure and extended scientific foundation. Take, for example, the *art* of navigation, which is founded upon the *science* of astronomy. The seaman can determine the exact position of his vessel with a precision only bounded by the limits to the perfection of his instruments, by observations of the altitude of the sun, which fix his *latitude*, and by observations of the distance of the moon from the sun or from the stars, by computations founded upon which he can determine his *longitude*. Now, whence is it that he derives the knowledge of *how* to do this—the rules on which he works—and the standards of comparison from which he draws the results of his computations; so that, if his vessel have been driven by winds and currents into seas never before traversed by the mariner, he can ascertain its place with the same certainty as if he were voyaging along the most familiar tracks? Simply because his art is founded on a science so perfect, that, as regards this application of it, there is nothing wanting to make its predictions as certain as if the events had actually taken place. The astronomer can specify, with the utmost exactitude, the changes in the sun's elevation which take place from day to day in every latitude, and can show that its height above the horizon must depend entirely (allowance being made for these changes) upon the observer's distance from the equator; so that, if the height be determined by observation, the latitude can be deduced from it by a formula of the simplest kind. The determination of the longitude from observations of "lunar distances" requires a computation of a far more complex nature, and one in which the triumphs of science are still more apparent.* For it is requisite that the ever-changing position of the moon should be calculated for years beforehand with the most rigid accuracy; so that her place with reference to the sun or the fixed stars, at a given observatory, may be set down in tables, which shall be carried by the voyager who is about to start on a distant and tedious enterprise, and shall serve as his guide through his toilsome and devious way, until he is, conducted by them in safety and security to his desired haven. Such tables are the triumph of astronomical science, which is able to say, not only "This *does* happen," but "This *will* happen." And thus the rules of navigation are as certain when applied to any future unknown case, as they have been proved to be in regard to the past.

I have directed your attention to astronomy as the most perfect of *sciences*, and to navigation as the most perfect of *arts*, because I desired—on the one hand, to give you a clear notion of the relation between science and art, and also to show you how necessarily the certainty of the rules of an art depends upon the perfection of the science upon which it is founded. Thus, if there were anything wanting to the completeness of the "lunar theory"—if the various inequalities and irregularities of the moon's motion were not exactly accounted for and referred to definite causes—the prediction would lose all its security, and would be reduced to that vague probability which attends the prediction of the return of *comets*, whose movements we have comparatively little opportunity of observing, and the excessive tenuity of whose substance renders them liable to be turned aside by forces so slight as not to produce the least perceptible effect upon the solid masses of our system.

But I cannot quit this subject without drawing your attention to one other illustration of the wonderful perfection of the theoretical part or science of astronomy, which must be fresh in the minds of all of you—I refer, of course, to the prediction, not merely of the existence, but of the probable place, size, and distance from the sun, of an additional planet; founded upon calculations of the most refined and abstruse character, as to the source of certain irregularities which had been observed through a long course of years in the movements of a planet that was previously considered as the remotest of the mighty orbs that circle round our sun—irregularities which it seemed impossible to account for on any other supposition, but for which the action of an additional mass beyond furnished a probable, definite, and therefore satisfactory explanation.

Turn we now to our own department of inquiry, and apply to it the definitions I have cited. We shall find, then, that *medical science* embraces all that *is*, that *happens*, in the human body, in the state of health or disease. On the other hand, the *healing art*, as exercised by the physician or surgeon, consists of a series of rules which may be expressed under the general terms, *do this, avoid that*. That these rules are far from having the perfection which we should desire—that they are too frequently neither definite in their nature nor certain in their results—is a truth which is too soon forced upon the practitioner. However successful he may be in the treatment of certain classes of disease whose nature is apparent to him, whose causes can be determined with exactness, and for which he has efficient remedies which rarely, if ever, fail in their operation, he finds that the larger proportion are less clear in their manifestations—that their causes are more obscure—the indications for treatment less obvious—and that the beneficial effect of his remedies is uncertain. To many minds this state of things is not a little discouraging. I shall endeavour to show you why it should not be so regarded. We cannot but lament it. We cannot but desire, for the welfare of our patients, and for our own satisfaction, that the rules of our art were more certain, so that we could reckon more surely on the beneficial result of our interference. But, on the other hand, if we take a careful survey of the present condition of the science on which it is based, we shall find much—very much—to encourage us in the belief that it is rapidly advancing towards this wished-for consummation. And we have the additional satisfaction of feeling that each and all of us may do something to bring this about. The success of our labours, however, must depend in a great degree upon the nature of the aim which we propose to ourselves, and the steadiness with which we pursue it. We may strive after something entirely beyond our reach, and encounter much toil and anxiety with no good result. We may see our purpose faintly looming, as it were, through an indefinite mist, and may waste much time in gaining a distinct view of its real direction. And even when we have an object that we can clearly discern, and that we feel to be within our apprehension, we may be led astray from it by attractions which may present themselves in our course—by the desire of following out some unprofitable, but ingenious speculation—the temptation of some glittering prize that we seem able to reach by a slight deviation from our onward course.

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* This method is quite independent of chronometers, since it furnishes in itself a means of ascertaining "Greenwich time," and thus of making that comparison between it and the time of the observer's place, by which his longitude is determined. But as it is somewhat difficult to make lunar observations at sea with the requisite precision, and as the computations are rather tedious, they are chiefly employed as an occasional check upon the chronometers, by whose indications the navigator ordinarily works.

I propose, then, to set before you a few considerations as to the chief objects which present themselves for your attainment; such as may tend to give you a clearer conception of their nature, and greater steadiness of purpose in the pursuit of them. And I would offer, as your guiding thread in the whole inquiry, this general principle—that the advancement of the healing *art* must mainly depend upon the elevation of medical *science*. In other words, you must know what *is* and what *happens* in the human body—still more, you must be able to predict what *will be*, what *will happen*—before the rules, *do this, avoid that*, in which the healing art consists, can have the desired definiteness and certainty.

The first step towards this knowledge is an acquaintance with the *anatomy* of the body. It is obvious that we must know its structure, before we can understand the changes in which its life consists; we must be fully acquainted with its condition in health, before we can appreciate the alterations which disease may have induced in it. But whilst it is right that the student should aim at obtaining the fullest and most complete knowledge of this subject that it is in his power to acquire, there are certain objects which should be more especially kept in sight, with a view to the most profitable employment of the facts and principles of the science. On the one hand, you should study it in its relation to Physiology; that is, you should investigate the structure of the body with reference to the *normal actions* of which each part is the instrument; without the knowledge of which the living body is to you nothing else than a mass of inert matter. And again, you must study it in reference to Pathology; that is, you must make yourselves acquainted with the liabilities to change of structure and to perversion of function which each part may manifest as the result of disease or injury; in other words, you must study its *abnormal or morbid phenomena*. In this manner you lay a foundation on which all truly scientific notions of disease (or departure from normal action, by whatever cause induced) must be based. But, in addition, you have much to learn from Anatomy in your application of the rules of the therapeutic art. You will be continually baffled in your attempts at detecting the internal causes of the symptoms which are presented to your observation, and in devising remedies for these, if you have not a clear conception of the position, structure, and connections of all the most important organs of the body: and in the performance of surgical operations of every class, I need not assure you of the fundamental importance of a like clear conception of the local arrangement of even the minuter parts, in every region on which the interference of the skilful hand, guided by the judgment of the sagacious head, can be advantageously brought to bear.

There is one department of anatomy which has risen into increased importance within the last few years, and which is now universally recognised as forming an essential part of the medical education,—I mean *General* Anatomy, or the *minute structure and composition* of the several tissues of which the body is made up. This has most important bearings both on physiology and pathology. For it is now felt that our fundamental ideas of healthy vital action must rest on the knowledge of the powers and capacities of the minutest parts of the fabric; whilst, in like manner, our fundamental notions of the changes in which disease essentially consists are coming to rest more and more upon the knowledge of the perversions which the actions of these undergo, and of the minute alterations of structure which hence arise. This is the department of anatomy which is in a state of most rapid progress, and in which the greatest opportunities present themselves for making additions to the stock of information already attained. What may be called the *naked-eye* anatomy of the body has long since been ascertained with a completeness which leaves very little to desire. But in all that relates to the minute structure and connections of different organs, there are wide gaps to be filled up, presenting attractive objects of research to all who may feel inclined to devote themselves to the pursuit.

And now, in passing on to Physiology, I

trust that I shall not be thought to magnify the importance of my own department of study, if I urge upon you reasons for giving it more special attention than the great bulk of medical students are in the habit of bestowing upon it. To say that it is impossible to understand the diseased operations of our system—impossible to apply remedies with anything like probable success—impossible, therefore, to exercise the healing art as it *ought* to be practised, unless we are acquainted with all that is known of its normal or healthy action—might seem a truism; and yet, however self-evident the truth of the assertion, it is very far from having the weight which it ought to possess. The phenomena of disease have been too much isolated in idea from those of health, and have been improperly detached as objects of professional study from the changes which are continually going on in the organism. It has been too much lost sight of, that every diseased action is but a perversion, by *excess*, by *diminution*, or by *depravation*, of some natural function; and that only through an acquaintance with the latter can the former be understood, either as to its cause, its nature, or its tendencies. True it is, that a large proportion of the existing rules of the therapeutic art have no definite physiological foundation: in other words, a great deal of medical and surgical treatment is directed on no other foundation than that of a limited experience. Such and such a method, it is said, will probably be successful, because it *has been* successful in cases that appeared similar; but *why* it should succeed, or *why* it should fail—what, therefore, will be the probability of success or failure in new cases—we do not know, and cannot tell. Now, this is just the department of the healing art which all feel to be most unsatisfactory. It is where no *rationale* of treatment can be given, that there has been the least connection established between the phenomena of diseased and those of healthy action. On the other hand, it is where this connection has been developed—where we best understand the nature and causes of the deviations from the normal standard—that we can most definitely mark out the *ratio medendi*, and can most confidently predict the results of our treatment.

Now, it is in the establishment of this relation between the healthy and morbid conditions of the system, and in the detection of those *first departures* from the normal actions which frequently constitute the essence of disease, that medical science is at present advancing. And I do not hesitate to affirm that this progress is mainly due to the more clear and definite aspect under which Physiological Science has of late been presented, through the combined researches of the microscopist and the chemist. For whilst the one has been devoting himself to the patient scrutiny of all the changes which are discernible to the eye, assisted by that wonderful instrument which now renders even the minutest elements of the bodily frame clearly discernible in all their parts and actions, the other traces all the changes in composition which the materials of the fabric undergo, from the time when they are first received into it as food, until the period of their expulsion from it as products of death and decay. He seeks to know all the transformations to which these materials are subjected, the uses to which they are severally rendered subservient, the circumstances which govern one or another application of them; and thus to be able to give a definite account of the chemical actions of each particle from the time of its entering the body until that of its quitting it, which shall serve as the complement to that which the microscopist draws from his observations as to the visible form, structure, and operations of the tissues into whose composition it enters.

And thus we are led to view the *constructive* part of the living system under two aspects, dissimilar, yet harmonious;—as a manufactory in which certain materials are worked up into a variety of forms, each fabric having properties of its own; and as a laboratory wherein the materials themselves are subjected to changes of composition, by which a far greater variety of textures may be generated—a far greater variety of forms and properties evolved. Any hindrance or perversion of either process will mar the result; that result being the development and maintenance of the perfect organized fabric, endowed with those wonderful properties which (being peculiar to living beings) we denominate *vital*, and possessing within itself the means of continual renovation, provided the requisite materials be supplied.

But there are not merely constructive agencies at work in the living body; it is continually liable to *destructive* influences; and these arise out of the very nature of its constitution. It is a great mistake to suppose that a living tissue has, simply in virtue of its life, the power of resisting death and decay. The body is in a state of continual decomposition, more rapid in proportion to the activity and energy of the exercise of its animal functions; and one most important class of its operations consists of the means by which the products of this decay are eliminated from the system—namely, the excretory functions. It has been well remarked, that the uninterrupted exercise of these is even more important to health than the uninterrupted performance of the constructive operations. We may have our supply of nutriment suspended for a time without any serious injury; but if the elimination of the excretions be checked, their materials speedily accumulate in the blood, and act as the most deadly poisons. Further, these excretory functions serve not merely for the removal of the poisons which are continually being generated within the healthy system, but they tend also to draw off those which are abnormally present; whether these have been altogether introduced from without, as in cases of poisoning by opium, arsenic, &c.; whether they have been introduced from without in the first instance, and then augmented within the body by an action resembling fermentation, as seems to be the case in regard to the poison of fevers of various kinds; or whether they have been altogether generated within the system, by a perversion of the ordinary nutritive operations, as seems to be the case with the *materies morbi* of gout and rheumatism.

Now, it is in the application of these and other such general principles to Surgery and Medicine, that we may look for the greatest improvement in the healing art. The surgeon is mainly concerned with the *constructive* operations. It is his business to repair the breaches occasioned by disease or injury; or rather, I should say, to place Nature in the most favourable circumstances for repairing them. Although it may seem at first sight derogatory to the dignity of the surgeon's art to say that he does little else than this, yet I believe that all who have well considered the matter will agree with me. What does he do in the treatment of fracture but bring the broken bones into apposition? It is not *he* that forms the callus. All that he can do is to take care that the callus shall unite the disjoined pieces. If Nature will not make the callus, *he* cannot do it. He may give her a little stimulus if she be inert, and may sometimes succeed in getting the work done, where it would not be done but for his interference; but if Nature perseveres in the refusal, he cannot do it in her stead. In the reduction of a dislocation, his share in the cure is greater; Nature could not have done it without him; but he cannot here do without Nature. Who repairs the ruptured ligaments, the torn muscles, the lacerated capsules? certainly *not* the surgeon, but Nature again. If a dislocation be *not* reduced, Nature often makes a fresh joint; the surgeon could not have accomplished this with all his skill. A man receives a tremendous wound; a clean breach is made through his body.* Who repairs this? clearly not the surgeon. All he can do is to stand by and watch; to support the strength of the patient, and to lower inflammatory action if it should supervene; in other words, to give nature the means of reconstruction, and to prevent her from *over*-doing the work. And in those very nice and intricate questions, in which the skill and judgment of the surgeon are shown to the greatest advantage, relating to the conservation of parts that have undergone injuries so severe as to render it questionable whether the safety of the patient does not require their removal, what is the real question which the surgeon has to decide? It is simply this, whether the probability is greater that nature will succeed in working a satisfactory cure; or whether the risk is greater that, by failing to do so, the patient's life will be endangered by the constitutional disturbance which a perversion of the restorative powers may excite. The question is not, whether Nature or the surgeon will accomplish the work better; but whether Nature can be safely left to herself; or whether the surgeon had better, by cutting off the injured part, make shorter and more certain work of the process of cure, at the expense of a maim for life.

Thus you see that in the practice of Surgery, a full appreciation of the reparative and preservative powers of the body lies at the foundation of all scientific rules of treatment. The knowledge of these is not less important in medicine; but in the latter we have also to give special attention to the *destructive* operations constantly going on in the system, to the various results of the changes which they involve, to the irregularities to which they are subject, and to the means by which these may best be counteracted. In fact, it is essential to the perfection of medicine as a science, and consequently to the most successful application of its teachings to the art of healing, that we should have a clear conception of the nature of *every one* of the processes by which the body is built up and maintained in health and activity, and of all the perversions which each of these may undergo, whether from the morbific influence of external agents, or from causes inherent in the system itself.

Thus we have certain classes of diseases which are dependent upon the faulty character of the food; the excess or deficiency of certain of its proper constituents; or the presence of substances of a positively injurious nature. Then, again, we have other diseases that are dependent upon some imperfection in the processes, by which even good and wholesome food is prepared for the nutritive operations by conversion into the elements of blood. There can be no question that many disorders of nutrition are due to causes of this nature; defects in the *primary assimilating* and *elementary organizing* operations by which the circulating fluid is elaborated, being the source of such departures from the proper proportions of the normal ingredients, and of such a depravation in the quality of those ingredients, as may give rise to numerous diseases, which have been too frequently regarded as originating in a perversion of the normal actions of the solid tissues.

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* "Captain (now General) Macdonald, of the Royal Artillery, was present at Buenos Ayres, when a bombardier of that corps received a wound from a two-pound shot, which went completely through the right side, so that when led up to the General, who was lying on the ground, he saw the light quite through him, and supposed he was of course lost. This, however, did not follow, and some months afterwards the man walked into Captain Macdonald's room so far recovered from the injury that he was able to undertake several parts of his duty before he was invalided."—Guthrie's Lectures on Wounds and Injuries of the Chest, p. 82.

But even supposing that the blood has been most completely elaborated, the act of nutrition is itself liable to perversion, arising from the abnormal condition of the solid tissues, which are, equally with the blood, participant in the operation; and I am inclined to believe that in that great and most important class of diseases ranked under the general term inflammation, it is in a depressed functional activity of the solids that the disordered condition really commences, the changes in the movement and constitution of the blood being secondary to this.* At any rate, it is now universally admitted by scientific pathologists, that inflammation is not a distinct and independent action, superinduced upon or replacing the normal operations of nutrition; but that it is neither more nor less than a perverted condition of these. To this category, again, we must refer those various abnormal growths, which are not, like tubercle, the result of the imperfect elaboration of the organizable materials of the blood, but which are comparatively high in their organization; being either, like fatty tumors, composed of tissues resembling in structure, composition, and mode of growth, those which are normally present in the body; or else being made up of forms of tissue peculiar to themselves, and leaving in many instances that power of rapid growth, appropriating all nutriment to themselves, and destroying everything in their neighbourhood, from which they derive their title of *malignant*. I cannot see any reason for regarding these disorders as having their primary seat in the blood; although the circulating fluid doubtless becomes secondarily affected by them.

But a most fertile source of disease is to be found in a perversion of those regular operations, by which the results of the continual waste or disintegration of the system are eliminated from it. If this process go on with due regularity, those *débris* are carried off as fast as they are formed, having a tendency to pass into new combinations, for the removal of each of which an appropriate organ is provided. But these organs may not perform their normal functions; and thus the normal products may accumulate in the blood, and may act as poisons of greater or less virulence. Or, again, from some disorder of the preliminary actions, or from a perversion of the destructive operations themselves, an abnormal set of products may be formed, giving rise to a series of disorders altogether distinct from those which I have just named.

It is not only our business to ascertain the existence of these disorders, but also to seek for remedies for them. As our knowledge advances of the real nature of the morbid operations which constitute disease, so does our acquaintance improve with the power of remedies in modifying them and in restoring the normal condition. And I cannot give you a better illustration of the increasing precision of our knowledge on this subject, than is afforded by the recent announcement of Dr. Golding Bird, that, whilst the ordinary diuretics (squill, digitalis, turpentine, and colchicum) increase the discharge of water without augmenting the solid contents of the urinary excretion, there are certain chemical diuretics, of which potass in combination with vegetable acids seems to be (as theory would predict) the most efficacious, whose agency is apparent in a great increase of its solid matter, especially in that mixture usually set down as "extractive," and which promise, therefore, to be of great efficiency in removing effete or imperfectly organized matter from the system.

I have thus endeavoured to present you with a glimpse of the aspect under which medical science and art are now viewed by intelligent and thoughtful men, who look to the *future* as well as to the *present*, and who study the *past* history of medicine for the hints it may afford as to the means and opportunities of onward progress. Now it is to the rising generation that we must chiefly look as the instruments of that progress. All experience shows that the younger members of our profession are those by whom scientific improvements are most readily carried into practical application; by whom investigations for the discovery of new truths are prosecuted with most zeal; by whom errors of doctrine and practice are most quickly detected and most unreservedly abandoned; by whom, in a word, the greatest mental *activity* is displayed. There are many reasons for this. As age advances, the habits of thought become settled; the mind tends to move in the beaten track; there is a less eager desire for professional distinction; and the indisposition to new acquirement often induces the settled belief that there is nothing new worth acquiring. I do not say that the superior activity of the youthful aspirant is an unmixed good; or that the passive conservatism of his less mobile senior constitutes an unmingled evil. Either would be prejudicial if it existed alone. Without such a body of sober experience as is to be found amongst men of mature age and extensive opportunities of observation, there would be little of permanence in medicine; the younger portion of our community would be carried about by every wind of doctrine; every new system that presented a fair appearance would enlist a band of enthusiastic followers; and exploded errors would be abandoned, only to be replaced by a new set of fallacies, worse perhaps than those which they succeeded. On the other hand, if it were not for the activity of our younger members, there would be a serious danger lest cautious conservatism should lapse into utter stagnation, and progress become a dead letter. For although it is not by the young *alone* that discoveries are made, that the search for truth is diligently carried on, that error is detected, and that the truths of science are made available in art, yet a careful survey of the past history and present state of the profession can leave no doubt that it is mainly through *them* that improvements in knowledge or practice become part of what may be termed the stock in trade of the profession at large.

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* See British and Foreign Medical Review, vol. xviii., p. 91, et seq.

It is impossible, then, to overrate the importance of the acquirement of a right spirit on the part of those who are entering upon their professional career; for upon the spirit with which they set out will they generally proceed; and upon their future course will depend, not merely their own worldly success, but the welfare of the entire body of which they are members, the progress of medical science, and the improvement of our benificent art. What, then, is this right spirit, which I would endeavour to impress upon you? I cannot better explain my meaning than by drawing your attention to the striking parallel instituted by the immortal Schiller, in an introductory lecture delivered at the University of Jena, nearly sixty years ago, between the "trader in science," and the "philosopher" or "lover of wisdom."

"The *plan of study*," he remarks, "which the trader in science proposes to himself is one thing; that of the philosopher is another, and far different. The former keeps in view from the commencement of his academical career little else than the acquirement of such knowledge as he has the prospect of rendering directly profitable to himself; he sets the powers of his mind in activity, chiefly or solely for the improvement of his worldly position; and to this object is his ambition limited. Having stored his memory with a certain amount of professional lore, he goes forth into the world to bring it into practical use; and ere long the result of the mental habits which he has cherished begins to display itself. Every extension of the boundaries of the science by which he earns his bread is regarded by him with anxiety, since it occasions him fresh labour, or renders his former labours useless. Every important innovation or discovery alarms him; for it breaks down those old school formulæ which he had taken so much pains to acquire: it endangers the entire produce of the toil and trouble of his whole previous life. There are none who raise so loud an outcry against reformers, who so carefully and effectually obstruct the progress of useful revolutions in science, as those who view it *merely* as an instrument for gaining their daily bread. The less their acquirements reward them *in and for themselves*, the more do they look for remuneration from others. Not in the deep and hidden treasures of his own thoughts does such a man seek his recompense: he looks for it in external applause, in professional honours, in the accumulation of wealth. Is he disappointed of these? Who is more unhappy than the man who has cultivated knowledge with no higher and purer aim? He has lived, he has watched, he has toiled in vain: in vain has he searched for truth, if he cannot barter her in exchange for gold, for public applause, or for the favour of the great. Pitiable man," says Schiller, "who, with the noblest of all instruments, science and art, can design and can execute nothing higher than the artizan with the meanest; who, in the empire of perfect freedom, bears about him the soul of a slave! But still more pitiable is the young man of genius, whose natural disposition is turned aside by pernicious doctrine and example, into these miserable byways; and who has suffered himself to be persuaded to concentrate his whole mental force upon this merely professional perfection? He will soon regard his professional attainments as a mere piece of botchwork; wishes will arise within him which can never be satisfied; his genius will rebel against his destination; everything he does now appears to him fragmental; he sees no aim to his labours; and yet he cannot endure their aimlessness. The irksome, the insignificant in his employment, press him to the earth, because he cannot oppose to them that high and cheerful courage which accompanies only a clear view of a lofty standard of eminence, and a confident anticipation of in some degree attaining to it. So soon as his faith in the infallibility of his acquirements is shaken by important failures he becomes disgusted with his pursuit, and is disposed to relinquish it as altogether valueless, instead of striving hopefully after a more certain and comprehensive knowledge.

"How far different is the spirit of the real philosopher! Just as sedulously as the trader in knowledge severs his own peculiar department from all others, does the lover of wisdom strive to extend its dominion and restore its connexion with them. All his efforts are directed towards the perfecting of his knowledge: his noble impatience cannot be restrained until all his conceptions have arranged themselves into one harmonious whole—till he can take his stand on the summit of the hill of science, and overlook the whole extent of his domain with a satisfied glance. New discoveries in the field of his activity, which depress the trader in science, enrapture the philosopher. Perhaps they fill a chasm, which the growth of his ideas had rendered more and more unseemly,—or they place the last stone, the only one wanting to the completion of the structure of his ideas. But even should they shiver it into ruins—should a new series of ideas—a new aspect of nature—a newly-discovered law in the physical world, overthrow the whole fabric of his knowledge—*he has always loved truth better than his system*—and gladly will he exchange her old and defective form for a new and fairer one. And even if no external shock should disturb his mental structure, yet is he compelled by an ever-active impulse towards improvement, to be the first to pull it down, and to separate all its parts that he may rebuild it anew in a more perfect form and order? The philosophical mind passes on through new forms of thought, constantly heightening in beauty, to perfect consummate excellence; while the mere trader in knowledge hoards the barren sameness of his school attainments in a mind eternally stationary.

"There is no more equitable judge of the merits of others than the true philosopher. Acute and inventive enough to take advantage of every kind of active power, he is also reasonable enough to honour the author of the minutest discovery. For him, all spirits labour; to the trader in knowledge their toils are hostile and ruinous. The former knows how to make all that is thought or done around him his own; an intimate community of all intellectual possessions prevails among real thinkers; whatever one conquers in the empire of truth, he shares with all:—while the man whose only estimate of wisdom is profit, grudges his contemporaries the light and sun that illumines them; he guards with jealous care the tottering barriers which feebly defend him from the incursions of victorious truth; and for whatever he undertakes he is compelled to borrow stimulus and encouragement from without. The man of philosophic spirit finds in the very objects of his search, and even in the toils of the pursuit, excitement and reward. With how much more ardour can he set about his work, how much more lively is his zeal, how much more persevering his courage and activity, since each labour starts in all the freshness of youth from the bosom of its predecessor! The *small* acquires magnitude under his creative hand, for he keeps the *great* steadily in his eye, and all his conceptions are tinctured by it; while the trader in knowledge sees only the details—the *small* even in the *greatest*. Not, *what* is his pursuit, but *how* he handles what he pursues, distinguishes the man of philosophic mind. Wherever he takes his station—whatever is the field of his activity—he always stands in the centre of *the whole*; and, however widely the object of his pursuit may detach him from his brethren, he is near and allied to them by a mind working in harmony with theirs. He meets them on that point where all bright spirits find each other."*

Such, gentlemen, are the sentiments left to us by one of the master-minds of his age, who nobly exemplified in his own life the spirit which he thus inculcated on his followers. I need not, I trust, ask *you*, which of the two characters thus depicted you feel to be most worthy of imitation. None but the mind essentially mean and sordid could hesitate in the choice, when they are thus presented to it as objects of which both are equally within its grasp. "But," you may not unreasonably reply, "we are to be, by the very nature of our position, 'traders in knowledge;' we must *live* by the profession we have chosen; we must now *learn* that which we may apply hereafter to the procuring for ourselves, and for those dependant on us, our daily bread." I freely admit this: but the fact should supply a still stronger motive for the culture and encouragement of a spirit which shall prevent your minds from being debased by the accident of your position. If you must be "traders in knowledge," let it be after the fashion of the enterprising and liberal merchant, ever ready to take advantage of new openings for his operations, willing to make temporary sacrifices for the prospect of ulterior benefit, and measuring his profits by the balance of the sum total, instead of by individual items: rather than in the manner of the petty retail-shopkeeper, who depends for his success upon dealings of the most limited nature—who estimates the importance of each division of his business solely by the returns which it brings to his counter—who tries to make inferior goods answer the purpose of the best—and who refuses to have anything to do with an article, however useful it might prove to his customers, and profitable to himself—

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* Abridged from a translation in the New Monthly Magazine, vol. xxix.

if it had been introduced by a rival. 'The greater the tendency of your occupation to lower your standard, the more you should struggle to keep an elevated aim in view. If you feel tempted to confine your attention during the periods of your pupillage to that alone which will serve your purpose as routine practitioners, you should consider well whether you are discharging your duty to your Creator, to humanity, to your profession, to yourselves, in thus descending to the level of mere 'traders in knowledge.' And if you seriously ponder on this momentous question, and honestly act up to the resolutions which I trust that your sober judgment and sense of right will lead you to form, it will be much easier than you may at present imagine to cherish a genuine philosophic spirit, even when you are immersed in the cares and responsibilities of practice,—a spirit which shall be quick to pursue whatever may tend to the advancement of medical science and the improvement of the healing art, but not less quick to discern the bounds that limit every human inquiry,—a spirit that shall discriminate between those cases of disease which may be treated on scientific principles, in the full confidence that no other plan has the least claim to adoption, from those which must be mainly left to Nature, or in which a rational empiricism alone must be the guide,—a spirit which shall know how to distinguish what is just in itself, from what is merely accredited by illustrious names,—a spirit which can recognize the merits, and appreciate the discoveries of a rival, not 'damning with faint praise,' but giving a hearty tribute of applause to whatever is worthy of admiration.

Such, gentlemen, is the philosophic spirit which has been well said to be more valuable than any limited attainments in philosophy; and such are the desires with which all, who are engaged in the momentous duties of medical education, must strive, if they be faithful to their trust, to animate their pupils. But their fulfilment must rest *with yourselves*. There cannot be a greater mistake than to suppose that for the formation of your professional characters your teachers are responsible. The very best instructions, falling upon a barren soil, are perfectly fruitless. The most accomplished lecturer may as well discourse to empty benches as to the careless inattentive student. The sagacious physician, the dexterous surgeon, may work any number of miracles of science before the eyes of a crowd of pupils with no good result, except to the patient, if you do not strive to understand the *rationale* of their proceedings, and to acquire the knowledge by which you may yourselves be equally successful. On the other hand, the earnest and discriminating student is comparatively little dependent upon the guidance of the teacher under whom he may chance to be placed; but draws from the dissecting-room, from the hospital wards, and the dead-house, and from the works of the masters of their respective departments, that information which the inefficiency of the lecturers on whom he attends, or the unskilfulness of the practitioners whom he follows, may fail to afford him. In almost every walk of life, the knowledge which a man gains by his own exertions is that which he most prizes, and which is most fruitful in all good results; and in no case is this more evident than in our own profession. Those individuals in whom the advantages of a superior education are most evident, will be found to have derived their superiority, not from the amount of direct instruction which they have received from their teachers during the period of their pupillage, but from the mental discipline to which they were subjected (or wisely subjected themselves), and from the habits of correct observation and correct reasoning which they had imbibed.

And now, in conclusion, gentlemen, let me lead your thoughts to the *motives* which should animate you to the pursuit of your professional studies, in that elevated and liberal spirit which I have been endeavouring to inculcate. In the first place, you owe it to *your Creator* to make the most advantageous use in your power of those gifts and opportunities wherewith he has endowed you. Surely he did not give you the powers of observation, the insight into the mysteries of organization, the capacity for scientific research, and the intelligence to use the knowledge already acquired, that these should be allowed to rust and decay in stupid inactivity. They are all *talents* entrusted to your charge, of which a rigorous account will be expected from you. They are not equally distributed. The one has many, the other few. But of all alike must an account be rendered. To whom much is given, of him will be much required; and even he that has received least, if he hide his single talent in a napkin, instead of turning it to profitable use, will be accounted a wicked and slothful servant. And let it not be thought that this momentous warning has a limited application. Our mental capacity — our time—our opportunities of improvement—our means of extending knowledge — our ability to bring it into useful employment—are all *talents;* and the inquiry will not be merely whether we have made use of them, but whether we have made the *best* use of them that circumstances permitted. Now, if we look thoughtfully abroad into the world, we discern a most wonderful relation—a relation that is, to my own mind, one of the most convincing of all proofs of order and design in the existing constitution of the universe, mental as well as physical—between the variety of objects of pursuit in which the wants and desires of man have caused him to engage, and the diversity of capacities and tastes which provides for the filling up of every department in a manner most suitable to it. There is to me a *sacredness* about any *special* gift or endowment: I cannot but believe that it was bestowed for a good and wise purpose, and that it is our business to find out that purpose if we may, and to allow the gift to work for the welfare of its possessor, and for the benefit of the race. You must all remember the cogent train of reasoning by which the Apostle to the Gentiles urges upon his Corinthian converts the discreet and harmonious use of the "spiritual gifts" with which they were severally endowed. The analogy which he draws between the animal body and the Church he is addressing, is not less applicable to society at large. "As the body is one, and hath many members, and all the members of that one body, being many, are one body," and "as the eye cannot say to the hand, I have no need of thee, nor again the head to the feet, I have no need of thee,"—so is our common race made up of individuals dependent upon each other, like the members and organs of our corporeal frame, for mutual aid and co-operation. Every one, therefore, who misuses his powers, whether by idleness or misapplication, not merely leaves the purposes of the Creator unfulfilled so far as he is individually concerned, but does what in him lies to disarrange the vast scheme of Providence, which has united men in the bonds of mutual dependence—a chain which, instead of becoming more galling the tighter it is drawn, has its pressure replaced by the mutual attraction which springs up between those whom it has brought together, when they allow free play to the kindly sympathies implanted n their hearts.

And thus I am led to remark upon the motives which should arise from the feeling of *human brotherhood*—the desire to minister to the wants of our common humanity,—which has had its share, I trust, with all of you in directing your choice of a profession. It is the glory of our calling, that, whilst others are engaged in the destruction of life and property, and in the infliction of all those dire miseries which result from the unprofitable struggle between two nations as to which can do the other the most harm, it is *our* office, though we cannot restore the dead to life, to do all that science can effect to keep death at bay, to mitigate suffering, and to repair injury. Whilst others obtain their livelihood by taking part in the quarrels of the litigious, in bringing to punishment offenders against the laws, or (still worse) in shielding them from it, it is *our* more pleasing duty to soothe the spirit made irritable by bodily disorder, to put a wholesome check upon tendencies which, if indulged, would be alike injurious to society and to the individual, and to point out where the existence of mental infirmity requires that justice should be tempered by mercy, and corrective restraint substituted for criminal punishment. Whilst the occupations of many others minister to nothing better than the follies or luxuries of society, and too frequently become sources, direct or indirect, of human misery and even of depravity,—*we* can cherish the delightful consciousness that all *our* ministrations tend directly to human welfare; and that it is not merely in the prevention and cure of bodily disease that our power consists and our duty lies, but also in the demonstration of the causes of that debasement of the intellect and morals, which is, no less than physical malady, the inevitable result of inattention to the conditions requisite for the healthful performance of the bodily functions. And if we feel it to be the glory of our profession that we can thus look for our reward, not solely in wealth acquired or dignity obtained, but in the happy consciousness of duty to humanity discharged,—in the earnest gratitude of the sufferer restored by our means to ease and vigour,—in the blessing of him that was ready to perish but for our intervention,—can any thoughtful student enter upon the preparation for it without an earnest desire to qualify himself to the best of his ability for the discharge of its responsible duties?

And thus, again, I am carried onwards to speak of the claim which the profession itself has upon you, that you should put forth your best endeavours to sustain and elevate its character. There never was a time, perhaps, when this claim was so strong as it is at the present day. On the one hand, the progressive tendency of the age, the love of novelty, and the decreasing tendency to rely upon prescription and authority, are weakening the hold which the profession has possessed over the public mind. We do not now see the ignorant and gullible alone deserting our standard and enlisting themselves among the followers of empirics: it is the astounding fact that among the votaries of quackery at the present time are to be found some of the most intelligent and highly educated of the community; and that even most respectable and well-informed members of our own profession have become advocates of systems opposed not merely to the current doctrines of medical science, but (as appears to most of us) to the simplest dictates of common sense. On the other hand, if the progress of scientific inquiry has overturned some ancient fallacies, it has built up a solid foundation for a far more substantial and permanent edifice,—if it has shown us that much of what we thought we knew was far from being the truth we believed it to be,—it has given us a number of more substantial truths in its stead; and, what is yet more than the benefits it has as yet actually conferred upon us, it has pointed out to us the *direction* in which we may seek for fresh acquisitions, with a full confidence of success.

Thus, then, whilst the present position of the profession with the public urgently calls upon you to bear your part to rescue it from the discredit into which it is falling, the condition of medical science is such as to afford you opportunities of doing so, more fertile than have been presented at any preceding period in professional history. And I make no doubt that, so soon as the public shall be satisfied that we are sedulously applying ourselves to the advancement of our science, and to the improvement of our art,—that we are carefully examining into the foundations of the doctrines current amongst us, with a perfect freedom from all disposition to cling too closely to the "wisdom of our ancestors," and with a readiness to examine, in a fair and candid spirit, all and any suggestions, however they may arise, and from whatsoever quarter they may come,—it will return to its ancient allegiance, and will trust its health to our keeping, as in old time.

Now the elevation of the *status* of the profession in the aggregate, depends entirely upon the exertions of the *individuals* who compose it. I cannot imagine that any plan of medical reform—any alteration in the existing constitution of our corporate bodies—will have the effect of improving our position with the public, otherwise than as it may tend to raise the standard of professional qualification, and to cherish and encourage attainments of a much higher order than are now required. But it is in your own power, gentlemen, to contribute towards this most desirable result by your own voluntary exertions. Every one of you who goes forth into the world with the spirit of the philosopher triumphant over the mean ambition of the "trader in knowledge," is thereby qualified, not merely for more extended usefulness to others, and for the attainment of the most solid and durable happiness for himself, but also for bearing his part in the elevation of the profession to that place in social consideration to which its inherent nobility so well entitles it. And is not this a duty which you owe to the community you are now seeking to enter? You have entrusted to you the accumulated treasures of ages. You are allowed freely to participate in the stores laid up by the disinterested labours, the self-denying toil, the persevering devotion, through evil report and good report, of men who have sacrificed their time, their health, their ease, their worldly prospects, for the good of their race, for the discovery of truth, for the enlightenment of the generations that should succeed them. And will *you* be satisfied with sharing all these, with enjoying the fruits of their labours, without adding anything to the pile,—without even putting the seed into the ground from which others who come after you may reap the harvest? Do not they, though dead, yet speak to you, and urge you, by all the ties of gratitude, to repay the obligations they have conferred upon you, by labouring in like manner for the benefit of your successors? Surely, then, we all have motives enough, in the present aspect and in the past history of our profession, to animate us, as honourable and faithful men, in the effort to carry forwards that which they have so gloriously begun, and to encourage us in the conviction that no such effort will be fruitless, even if it bring to us no other immediate reward than that of an approving conscience.

And now, having spoken of your responsibilities to your *Creator* for the right use of the endowments entrusted to your care,—of your social duties to the *race* of which you are individuals,—and of your obligations to that *profession* in which you desire to be enrolled,—let me, in the last place, suggest to you the consideration, whether there be not in *knowledge* itself, when sought in a right manner, and with right ends, something that supplies a want in *your own* spiritual nature—that ministers to a mental appetite which requires food as much as bodily hunger, and in the gratification of which there is an analogous but a far nobler enjoyment. The love of knowledge *for its own sake* is, of all the motives which can influence man in the pursuit of it, one of the noblest, the purest, and most stable. It is among the noblest, because it is, as Sir H. Davy has beautifully observed, "in its ultimate and perfect development, the love of infinite wisdom and unbounded power, or the love of God." It is among the purest, because it is incapable of being tarnished by the alloy of those baser feelings which may intermingle in a greater or less degree with almost every other. It is one of the most stable, because, unlike all those which have reference to our worldly position, it may be carried to a spiritual existence without a change in its character. To the man who is under its influence, what does it matter whether he alone has attained the elevation, or whether he shares it with others? The prospect below, around, and above him is the same. He has the same animating satisfaction in the review of difficulties overcome,—the same expansion of feeling as he surveys the extent of the domain beneath his feet,—the same delight in the glimpses he discovers of paths which may conduct him to new and yet more valuable acquirements. It is among those in whom the mere love of fame is the strongest—who seek most strongly for the applause, not so much of the master-spirits of their age as of the world at large, and for the substantial advantages which this brings with it,—that we observe the keenest sensitiveness to detraction in regard to the value of their attainments—the greatest disappointment if it can be proved that they have been at all anticipated in them. Such a seeker after truth can bear the proximity of no other: he must stand alone. He looks at the pinnacle of knowledge, not as the commanding eminence from which he may take a wider survey of its glorious domain, but as the pedestal on which he may elevate himself above his fellows, that they may fall down and worship him around its base. He carries into the domain of philosophy the sordid spirit of the mere "trader;" considers all who are engaged in similar pursuits as rivals rather than as comrades, and looks at every man as a personal enemy who ventures to express a doubt of the merit of his discoveries. To such a man truth cannot be, as it ought, "its own exceeding great reward." To the prevalence of such a spirit amongst those who profess themselves her followers, do we owe those manifestations of envy, hatred, malice, and all uncharitableness, which disturb the peace of the philosopher, and drag him down to earth, whilst he was rising in elevated contemplation towards that region of light where no darkness intervenes to hide our comprehension of the Creator's works. And so it must be, until it comes to be felt that the most valuable of all the prizes which can be offered to the aspirant is that which *every one* can attain; and that, in dwelling too strongly on the direct advantages of knowledge, there is a danger lest this prize be lost sight of, just as (to use Bacon's most apposite simile) Atalanta lost her race through stooping down to pick up the golden apple.

And what *is* this prize which I would hold out as that which each one of you may grasp, without being distracted by the rivalry of selfish interests, or disappointed through the superior address or ability of the most honourable opponents? It is the pleasure which attends the acquisition and the possession of knowledge, if it be made the object of pursuit *for its own sake*, rather than with a view to the worldly advantages which its possession may bring with it. If *this* be the cherished aim, every step towards it becomes a source of most legitimate enjoyment. The pleasure that is experienced in the *act* of acquiring knowledge, is felt by its true-hearted votary to be worth far more than that derived from the accumulation of pecuniary wealth. There is a pleasure in encountering toils, and rising superior to difficulties, with so noble a reward in view. There is a pleasure in looking upon its growing stores, and in feeling the mind expand itself to receive them, far above that which the miser can feel in the grovelling contemplation of his hard-sought pelf. There is a delight to be experienced in following out a beautifully-connected chain of reasoning, which terminates in evolving a simple principle adapted to explain a great variety of complex phenomena, or in recognising an analogy between facts apparently remote, which shall become the foundation of some comprehensive generalization—fully as keen as that which the most successful man of business can enjoy in grasping the lucrative results of a bold and well-arranged speculation. There is a pleasure, which becomes greater the more we open our minds to the enjoyment of it, in the contemplation of beauty and harmony wherever presented to us; and is not this pleasure increased when we are made aware—as in the study of Nature we soon become—that the sources of them are never ending, and that our enjoyment of them becomes more intense in proportion to the comprehensiveness of our knowledge? We need never fear that we shall exhaust the sources of this pleasure. Alexander wept because he had no more worlds to conquer; and I have heard of successful physicians who began to feel their professional labours burdensome, so soon as it became apparent, from the complete occupation of their time, that they could not extend the sphere of their exertions. You need have no such fear in the pursuit of knowledge. Every step you take only gives you a wider view of the unexplored country beyond; every elevation you gain only gives you a more distinct glimpse of heights above. You feel more and more that there is no limit to human attainment, but the duration of life and activity; and you become more and more assured that it is not with *this life* that our mental expansion shall end, but that in the life beyond the grave our progress shall be continued with the aid of higher faculties and clearer vision, and that through the endless ages of eternity we shall be receiving ever new delights in the extension of our survey of the grand scheme of creation, and in the gradual approach towards the perfections of the infinite Creator, of which He has graciously made our nature capable. And *then* shall we estimate our terrestrial attainments at their true value. We shall measure everything, not according to the worldly prosperity which it has brought us, but according as it has tended to develope the *Divine idea* within our souls,—to expand our intellectual capacity towards the comprehension of the wisdom and power of the Creator,—to purify our moral nature by the contemplation of his perfect goodness,—and to afford us the power of in some degree imitating that goodness, by the benificent exertion of our faculties for the welfare of our race. And then we shall recognise, in its fullest meaning, the truth of the saying of the religious philosopher of old, that "Wisdom is more precious than rubies, and all the things thou canst desire are not to be compared unto her."

Original Communications.

FATAL CASE OF ALGIDE CHOLERA.

By F. S. Haden, Esq.
Sloane Street.

[Concluded from page 680.]

Treatment.—On a revision of the symptoms detailed above,* some very opposite conditions are observable. For several hours there was nothing to distinguish the case from one of the *commonest diarrhœa*, dependent upon an error of diet; in a short time it was one of *algide cholera;* and, before death, a condition of very positive *reaction*. The diarrhœa, it will be observed, lasted from the morning until the evening of the first day (as I am led to understand, having myself been absent during the greater part of this day); the algide symptoms commenced at about 8 P.M. of the same day, and had gone off at noon on the 18th; and the period of reaction was at its height at midnight, and had terminated at noon on the following day. The treatment was simply opposed to the apparent exigencies of the case. In the first period—that of simple diarrhœa—the prescription of Dr. Synnot and myself was nearly the same, a presumptive proof that our opinion was the same with respect to the *then* nature of the disease. We both prescribed Hydr. c. Cretâ, as an alterative and evacuant, in consideration of the supper of the night before. Mr. Seaton, who visited the case several hours later — in short, just before it passed into the algide stage—saw the necessity of arresting the purging, and ordered Plumbi Diacetatis, ℈j.; Pulvis Opii, gr. ij.; Cons. Rosæ, q. s. to make six pills; of which he directed one to be given hourly until the purging had abated, and then every two or three hours, with a fourth part of the following mixture:—Acet. Distillatæ, ʒss.; Syrupi, ʒss.; Mist. Camp. ʒiij. He also ordered a liniment to be rubbed upon the legs composed of Lin. Saponis, ʒiss.; Tinct. Opii, ʒss. This treatment had the almost immediate effect of checking the purging, and was persevered in until towards the latter end of the algide stage, when, appearances becoming hopeless, and the prostration greater, I changed it for what I thought might prove a more restorative plan.

The opium had accomplished its end, when, with the acetate of lead, it had arrested the purging and vomiting; and to have continued, during the Algide stage, a remedy whose operation is supposed to consist in diminution of the nervous energy, was to insure, as its effect, nothing short of a still greater collapse; it was, therefore, discarded at this stage of the case, and a remedy sought for which should, if possible, interfere with the morbid processes said to be going on during the Algide state. Though the purging had ceased, it was fair to believe that effusion into the small intestine continued, and, in the absence of a better explanation, that this depended upon the separation of the serous from the solid constituents of the blood, and of the transudation of the former through atonized vascular parietes. It also appeared clear, from the livid surface and from what has been found on post-mortem examination of that portion of the blood which remains in the vascular cavities, that it was deprived of its oxygen, and that this itself *might* be owing to defective action of the lungs. The kidneys, too, had suspended their function, and it was not impossible that the same défaillance of the nervous centres which paralysed the lung, operated also upon them.

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* See the case of cholera published in last number.

At all events, this was the view of the moment; and the desideratum was a remedy which, while it should act as an astringent upon the vessels and intestinal walls, should be capable of restoring that vivifying agent to the blood, which it was supposed to have lost, as well as of stimulating the kidneys to a renewal of their action. The *hydrochloride* of *iron** seemed to combine these qualities in the greatest degree, and I therefore gave it—at first, in drachm doses, and afterwards half-drachm—every half hour, alternating its exhibition (in the hope of awakening nervous energy and restoring the respiratory function), with ammonia and camphor, in the proportion of six grains of the former to four of the latter. Frictions were also employed, and mustard poultices about the chest and diaphragm. This change in the treatment was followed (I will not presume to say as a consequence) by reaction; but as this was of a very decided character, it is within the bounds of possibility that the iron did, in some degree, conduce to it. Nevertheless, it is just as proper to admit that this supposition is contradictory to the opinion held by that very accurate observer, Dr. Parkes, as to the conduct of remedies in the algide stage of cholera; it being his belief that they are altogether inert. But to resume. With this reaction, the continued exhibition of ammonia and iron seemed as little desirable as the persevering employment of opium had been in the algide stage; they were, therefore, replaced by a mode of treatment altogether directed to the kidneys and liver. No urine had been secreted since the onset of the disease; and it was surmised—in presence of the reaction—that this was now the only stumbling-block to recovery. Turpentine fomentations were accordingly applied to the loins, and small doses of calomel, with large ones of acetate of potash, given frequently. Leeches were also applied to the temples, and a blister to the nape of the neck, it being Dr. M'Lachlan's opinion that the stupor depended as much upon cerebral congestion as upon the suppression of urine. A slight return of consciousness, and a scanty secretion of urine, took place before death; but whether in consequence of any of these means, must, with the operation of the ammonia and iron, remain a matter of conjecture. The patient died,—and we are still left to seek, in the observation of future cases, that philosopher's stone which eluded our grasp in the present instance.

There is but one *practical* point in the above treatment which seems to invite especial notice, but it is, I apprehend, a point of the greatest importance. *Opium* was persevered in until a late period of the algide stage, and long after the purging had ceased, and though the amount administered altogether was not more than three grains, I am now convinced that, after sufficient had been taken to arrest the purging, we should have done better to have withdrawn it; nay, I am *almost* convinced that opium is inadmissible as a remedy in cholera. Congestion, stupor, and diminution of the *vis vitæ*, are among the most formidable symptoms of the disease,—symptoms, I should think, highly contra-indicative of the use of opium. It may be exceedingly proper to give it in the earlier stage of the disease; but it is to be remembered, that should the case run into collapse, the difficulties of treatment are thereby increased two-fold. There is then not only the impairment of vital energy characteristic of the *malady* to be combated, but the parallel effects of the *opium* itself; and we must be still less surprised if the stomach should, under its influence (as Dr. Parkes believes, however, it would do without it), resist the action of remedies.

But too little is at present known of the pathology of cholera to make any *preconcerted* scheme useful. We have yet to assure ourselves that the drugs most in reputation are not positively injurious; and it is clear that we can arrive at nothing worth affirmation on the score of treatment, until the way is divested of these negative obstacles.

62, Sloane St., Oct. 6, 1848.

Since writing the above, I have been favoured, by Mr. Keen, of the King's Road, Chelsea, with an opportunity of examining seven cases of the same disease as that I have attempted to describe, and of witnessing the post-mortem examinations in three out of the four which have as yet died. The particulars of these cases I do not feel at liberty to record, but no one who has seen them can doubt, I imagine, that they are cases of malignant cholera.

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* The hydrochloride of iron, when this case occurred, was not known to the writer as a proposed remedy in cholera.

9th October.

ON

CONTAGION,

IN REFERENCE TO TYPHUS FEVER AND ASIATIC CHOLERA.

By John George French, Esq.
Surgeon to St. James's Infirmary.

The mode in which disease is propagated, whether by communication with, or contiguity to, the sick, or by other causes alone, must necessarily be a subject of some difficulty, since the most opposite opinions have been entertained by those who have had the best opportunities of forming a judgment upon it. The late Dr. Armstrong, for many years physician to the Fever Hospital, did not believe that typhus was contagious; and I recently inquired of an eminent physician, for many years attached to a metropolitan hospital, his opinion of the contagion of typhus. He replied, "Before 1836 I should have said 'No;' since that year I should answer 'Yes,' from evidence which that period afforded me."

My own experience in 1831 leaves me in no doubt on the subject. In March in that year a family was passed from Water Lane, Fleet Street, into St. James's Workhouse, affected with fever. No case of fever existed within the walls of the workhouse previously, nor was any such disease known to exist in any part of the parish. The man died two days after admission, and, on the third day after his death, the nurse who attended him died of the disease. Within a week, two convalescent patients who had assisted the nurse in the care of the first patient, had the fever, and died also; other inmates of the same ward then became affected with the disease, among whom was the surgery-man, who, although not a patient, slept in this ward; then some patients in the adjoining ward became affected; next some of the laundresses who washed the linen of the deceased; then their bed-fellows and neighbours; and, finally, the watchmen of the premises. The number of cases was 22: the disease was of unexampled severity. Dr. Tweedie, who saw the cases, and also received many of them into the Fever Hospital, expressed himself very strongly on this point. My belief is, that had this family remained in Water Lane, instead of coming into St. James's Workhouse, these 22 cases of fever would not have occurred.

During last year, repeated instances of the following kind occurred under my observation: — A large family, occupying a single apartment, received as their guest or lodger an inmate just arrived from Ireland. A day or two afterwards they applied for his removal to the Fever Hospital; and shortly after this, a portion, and in some instances the whole family, became affected with fever. The disease often spread to the families on the neighbouring floors and houses. On such evidence as this, then, I believe that typhus fever is a contagious disease.

In 1832, I had the charge of St. James's Cholera Hospital. A matron was engaged,—selected, among other qualifications, for the vigour of her constitution, and temperate habits. She was 40 years of age. Her duties were those of housekeeper, not of attendant on the sick. She had resided in the hospital for some weeks previously to the admission of any cases. The first case which was admitted was Mary Lee (aged 30) on the 6th July. The journal of the hospital states that she had been nursing her mother, who had died the day previously of cholera, and was seized in the churchyard at her funeral. This patient died seventeen hours after admission, and was not seen by the matron.

The second case was Margaret Lidgate, aged 9, admitted on the 8th July, from the Burlington School, at 1 P.M. The matron immediately visited this child, sat with her, and rubbed her legs while she was in a state of collapse. At half-past 5 o'clock the matron (previously in excellent health) was attacked with cholera, and died in thirteen hours and a half.

I believe that the communication which the matron had with this patient was the real cause of her attack.

John Foy, a labouring man, was

attacked while at work at Paddington, at 2 P.M. in August 1833. Some of his comrades had become affected in this locality, and died. He was brought home to Ham Yard, Windmill Street. His wife was attacked after nursing him two days, and subsequently three cases occurred on the floor above that on which he resided. This is precisely the same kind of evidence as that on which the contagious nature of typhus rests.

Although these cases afford ample evidence, to my mind, of their contagious origin, I am by no means disposed to doubt that other and more numerous cases might claim their origin from other causes.

It may, however, here be remarked, with reference to the general question of prevention as contemplated by quarantine regulations, that it is highly doubtful whether any known or practised system of quarantine would prevent the introduction of a disease so universally admitted to be exclusively contagious as syphilis, should a new form of that disease, for the sake of argument, be the object of its laws.

The ideas, indeed, commonly attached to contagion are so exaggerated, that when diseases, supposed to be of this nature, are observed under ordinary circumstances, the evidence is so weak and doubtful, that men of considerable experience are led to form the strongest opinions that these diseases are incommunicable from one individual to another. Thus, the facts elicited by a careful inquiry into the history of the Eclair, were in direct opposition to the numerous opinions formed by men who had observed the disease, which was the object of inquiry, at different times and places. So, although Dr. Armstrong denied the contagion of typhus, the Commissioners of Health, in a recent circular, declare it to be a "*highly* contagious disease."

The degree in which diseases are contagious is a question, indeed, of very great difficulty; but it is certain that the principal circumstances connected with it are, the deneseness of the population, and the number of cases of the same disease crowded together, although it is a part of the history of disease that occasional outbreaks of unusual virulence will occur which defy all calculation.

The chief practical question, indeed, is, if diseases are deemed contagious, how are they to be disposed of.

It has been my practice for many years to separate, as widely as possible, cases of the same disease which are deemed contagious, and, I believe, with an undoubtedly good result. So, if there are more cases than one of erysipelas, or other contagious disease, I place them in different wards; and I am satisfied, from experience, that there is less danger of infection from increasing, as it were, a malarious area, than from the more concentrated taint occupying possibly a smaller space; and also that the cases themselves proceed more favourably.

In 1836, by order of the Board of Directors, typhus cases were not permitted to be received into the Infirmary; but the building which was used for the Cholera Hospital in 1832, being a house situated in Marshall Street, Golden Square, was appropriated to the reception of typhus cases. The number of patients received there amounted only to three, all of whom recovered; but the two nurses who attended them during their protracted illness had the fever, and died. The Board, consequently, directed that all cases of typhus should be sent to the Fever Hospital.

Last year the number of fever cases was so great that the hospital was filled, and many cases of houseless poor required accommodation. Ten cases were treated at the Infirmary, and there was not any spreading of the disease whatever. There was generally but one case in a large ward at a time; and if there were more they were placed in beds as far as possible from each other, with other patients intervening: while in the lodging-houses, containing about fifty inhabitants, which contained really accommodation for six or eight, the disease spread in such a manner as to justify my belief that if hospitals received cholera patients into their wards as ordinary cases, there would certainly not be more danger than exists from erysipelas in every case of accident; and that the cases themselves would do better than if collected together.

Again, I think it highly desirable that every locality should have some reasonable accommodation for casual cases, and for emergencies; as, for instance, in order to thin the number of cases where they should occur in crowded houses—well recollecting the relief from anxiety which the thinning of the number of fever cases afforded me in 1831.

It will be observed, that this view of the subject is founded on the supposition that the general idea attached to contagion is greatly exaggerated with regard to the chances of propagation, and also of the importance of contagious diseases (instead of being collected together) being as much as possible separated, both as regards the well-doing of the cases themselves and lessening the virulence of the contagious virus; for it must be remembered that such remarkable instances of propagation by contagion as those afforded by the epidemic on board the Eclair, as well as those which occurred in St. James's Infirmary, in 1831, are of such uncommon occurrence as to be regarded as the exception rather than the rule.

OBITUARY NOTICE OF THE LATE DR. WILLS, OF CUMNOCK.

We have to record the death of Douglas Wills, Esq., surgeon, Cumnock, under the following melancholy circumstances:—On the 14th ult. he was called, in the discharge of his professional duty, to amputate the leg of a man who some time previously had his foot mutilated on the Grasswater Railway. During the operation he punctured his hand slightly with the instrument he used; but this was little regarded at the time.* In the course of a few days symptoms of absorbed poison became manifest, which speedily assumed an alarming aspect. The highest professional skill was promptly in attendance, but every effort was utterly baffled by the virulence of the malady. It was his own firm, calm, melancholy conviction, which he expressed from the beginning, that he should not recover. His death took place on the afternoon of Saturday last, after a week of great suffering. The deceased gentleman was a native of New Cumnock. On the completion of his education, while yet a very young man, he settled in Cumnock as a regular practitioner. He prosecuted his calling with the utmost diligence and most distinguished success for the long period of 30 years; yet he was still in the very zenith of his popularity when he was thus unexpectedly and prematurely cut off.

MEDICAL GAZETTE.

FRIDAY, OCTOBER 20, 1848.

We have not hitherto noticed the provisions of the Nuisances Removal, and Diseases Prevention Act, passed towards the close of the last Session of Parliament.* The fact that it is likely to have a most important influence on the sanitary condition of crowded populations, and that by a recent order in Council its provisions are directed to be put in force throughout the United Kingdom, are circumstances sufficient to justify a brief reference to it. This act is a considerable improvement on that which was passed in a previous session,† the efficient operation of which was very soon found to be impeded by numerous technicalities. The differences between the present and the former Nuisances Prevention Act, will be apparent from the following statement:—

"By the present act a notice from two householders is sufficient to enable the guardians of the poor to act; by the late act a certificate signed by two duly qualified medical practitioners was needed, before the guardians could act. By the present act it is made imperative on the guardians or other bodies to whom notice is given to proceed forthwith in the manner prescribed; by the late act it was discretionary with the guardians and other bodies whether they would take the proceedings for the abatement of the nuisance. By the present act a penalty of 10s. is imposed upon the owner or occupier who disobeys an order of justices for every day he makes default; by the late act no such pecuniary penalty was imposed; by the present act, to enable the guardians or other bodies to determine whether proceedings ought to be taken or not, an entry of the premises for the purpose of examination is authorized; by the late act a right of entry only was given to enforce the order of justices when made. Under the present act express powers are given for distraining a defaulter's goods wherever they may be found. The act also authorizes dung, &c., found on the premises to be destroyed or sold. These powers were not given by the late act; the present act distinctly assigns duties to the Guardians and Poor-Law Officers, as well as to surveyors and others charged with the management of roads and surface cleansing. The provision for this purpose is new. The former was a temporary act; the present is permanent. The present, like the former act, is applicable to the *whole of the united kingdom*. The only exception is in the cases of 'districts' formed under the Public Health Act, where, in order to prevent conflicting jurisdiction, a discretion will be exercised by the General Board of Health as to how far the present act shall be applied."*

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* We are informed that it was during his attendance on a case of phlegmonous erysipelas that he accidentally inoculated himself with the poisonous matter.

* 11th and 12th Victoria, cap. cxxiii. An Act to renew and amend an Act of the tenth year of her present Majesty, for the more speedy removal of certain nuisances, and the prevention of contagious and epidemic diseases.

† 9th and 10th Victoria, chap. 96.

We regard this as more of a Public Health Bill than that which is so called; and if its provisions be only carried out in the spirit in which they have been conceived, we have every reason to believe that the spread of cholera, typhus fever, and other diseases rendered infectious by the accumulation of filth in the crowded quarters inhabited by the poor, will be speedily arrested.

The present act, it will be seen, does not dispense with the aid of medical practitioners; it merely gives equal force to a certificate signed by two householders; a provision rendered necessary for the more speedy working of the act, under the apprehended diffusion of cholera. The following is a short summary of its provisions:—

"The object of the statute is twofold. It provides (1) for the more speedy removal of certain nuisances; and (2) for the prevention of contagious and epidemic diseases: but the provisions for the latter object do not take effect till called into action by an order from the Privy Council.

"The first section enacts that, upon receipt (or as soon afterwards as can be) by certain bodies therein enumerated, or by any guardians of the poor, of a notice, in a form set forth in a schedule to the act, or to the like effect, signed by two or more inhabitant householders of the parish or place to which the notice relates, stating— 'That, to the best of their knowledge and belief, any dwelling-house or building in any city, town, borough, parish, or place within or over which the jurisdiction or authority of such bodies or guardians extends, is in such a filthy and unwholesome condition as to be a nuisance to, or injurious to the health of any person; Or that upon any premises within such jurisdiction or authority there is any foul and offensive ditch, gutter, drain, privy, cesspool, or ash-pit, or any ditch, &c., kept or constructed so as to be a nuisance to, or injurious to the health of any person; Or that upon any such premises swine, or an accumulation of dung, manure, offal, filth, refuse, or other matter or thing are or is kept so as to be a nuisance to, or injurious to the health of any person; Or that upon any such premises (being a building used wholly or in part as a dwelling-house), or being premises underneath any such dwelling, any cattle or animal are or is kept so as to be a nuisance to, or injurious to the health of any person.'

"Such bodies or guardians, or some committee thereof, shall, after twenty-four hours' notice in writing delivered to some person on the premises, or, if there be no person there, affixed on some part of the premises (or in case of emergency without notice) by themselves, their servants, or agents, with or without medical or other assistants, enter and examine the premises with reference to the matters alleged in the notice of the complainants, and do all that may be necessary for such purpose; and if, upon such examination, or upon the certificate of two legally qualified medical practitioners, the existence of the nuisance appears, such body or guardians shall thereupon lay a complaint before a justice of the peace, who shall summon the owner or occupier to appear before two justices to answer such complaint. Such justices are then required, if the existence of the nuisance is proved to their satisfaction, to make an order for cleansing, whitewashing, or purifying such dwelling house or building, or for the removal or abatement of the cause of complaint in such manner and within such time as shall be appointed.

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* Circular of the Poor-Law Board, Somerset House, October 6th.

"This order is to be served in the same manner as the summons, and if not complied with, the owner or occupier against whom it is made will be liable to a penalty not exceeding 10s. for each day of default, and the guardians, or other body mentioned therein, shall themselves, or by their servants, enter the premises and cleanse them or remove the cause of complaint, and do all that may be necessary for carrying such order into effect.

"Any dung, manure, or other thing which is removed may be destroyed or sold, and if sold the proceeds shall be paid to or retained by the guardians, and shall be applied by them in aid of the poor rate of the place in which the removal shall have been made.

"The statute provides, in section 16, that whosoever shall wilfully obstruct any person acting under the authority or employed in the execution of the act shall be liable to a penalty not exceeding £5 for each offence.

"Section 3 provides that the costs and expenses reasonably incurred in obtaining the order, or carrying it into effect, may be recovered from the owner or occupier of the premises in respect whereof they have been incurred as a debt in the county court, or by summary process before two justices, unless such justices shall think fit to excuse such person upon the ground of poverty or other special circumstances.

"By section 7, the drainage of filth, &c. from houses not occupied before the 4th of September, 1848, into open ditches so as to occasion a nuisance to or to be injurious to the health of any person, will subject the occupier to a penalty of £5 per day during the continuance of the offence, and he may also be indicted for a misdemeanour. There is a like provision with respect to drainage from waterclosets or privies constructed after the 4th of September, 1848, and the penalties in that case will attach whether the privy or watercloset so constructed be attached to a house occupied before or after that day."*

The eighth section introduces a new provision in reference to Hospitals and Infirmaries. No hospital can be hereafter built or opened for the reception of patients labouring under contagious diseases, until due notice has been given to the General Board of Health, and it will rest with this Board to determine whether they will grant permission that the hospital shall be used for such a purpose. Considering that the lay members of a Board of Health can hardly be competent to decide a question of this kind, we are not surprised to find that, by the eleventh section of the Act, there is a power of appointing temporarily *one* fit person to be a *medical member* of the General Board of Health. Our readers know that this appointment has been already conferred on Dr. Southwood Smith; therefore the entire responsibility of working the Act efficiently, is now thrown upon this gentleman. We think it would have been more creditable to the Government, and more satisfactory to the profession, had the new Board of Health been constituted solely of men who had attained eminence in the *medical* profession. It would be regarded as preposterous to appoint a committee of medical men, assisted by *one* military member, to superintend the affairs of the Ordnance department; and yet the present constitution of the General Board of Health is just as anomalous. It follows that either the work must be done badly, or a very undue portion of it must fall on the solitary medical member. In either case the objects of the act, so far as the interests of the public are concerned, are likely to be defeated by the adoption of such an unwise and false system of economy.

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* Circular of the Poor Law Board, Somerset House, Oct. 6th.

The fact is, the Government is desirous of receiving on this, as on other occasions, the *gratuitous* services of the medical profession. There appears to be a mortal aversion on the part of our legislators to giving well-paid appointments to medical men, even when circumstances may fairly justify their creation. Such ill-paid offices as those which constitute the disgrace of the Poor Law, are liberally thrown open to them, and they are invited to compete until their salaries reach the point at which starvation begins. Sanitary acts are passed, and the chief appointments, with *one* exception, are conferred on men who are unacquainted with those two important branches of medicine—hygiéne, and medical police, without which no sanitary legislation can be effectual.

In the meantime, the following letter, recently addressed by Dr. Paris to the Lord Mayor, shews that the Royal College of Physicians is now performing, as its own spontaneous act, that duty which should have been at once assigned to its members by the Government.

"Dover Street, Oct. 12.

"My Lord Mayor,—Your Lordship, I feel assured, will learn with satisfaction that the College of Physicians has appointed a standing committee, consisting of the physicians of the great metropolitan hospitals, and other eminent persons, for the purpose of inviting and considering communications on the subject of cholera, and, if necessary, of suggesting such measures and precautions as may appear expedient to insure the confidence and safety of the public.

I have the honour to be, my Lord,
Your Lordship's obedient servant,
J. A Paris,
President of the Royal College of Physicians.

To the Right Hon. the Lord Mayor."

It would appear invidious to mention names, but there are many connected with this College who should have been selected as paid members of the General Board of Health in preference to the unpaid laymen who now form the majority of the Board.

The fact that Asiatic Cholera is now in the metropolis appears to be placed beyond doubt by the united testimony of many competent observers. It cannot be said, however, as yet to have manifested any epidemic tendency. The cases, considering the deneseness of the population, have been comparatively few, and almost exclusively confined to the banks of the Thames in the eastern parts of London. It is, however, satisfactory to know that, if we have this formidable disease superadded to those which may be considered as located among us, the weekly mortality is far below the autumnal average. The dreaded scourge does not even make up for the diminished fatality of more common diseases. The deaths in the week ending October 14 were 991, to a weekly average of 1154—a difference of 163 on the total mortality in favour of the healthy condition of the metropolis. When we look to the special causes, we find that zymotic diseases are unusually prevalent. The deaths were 448, to an average of 270; and among diseases of this class, the following were the most fatal:—

	Deaths.	Weekly av.
Scarlatina	188	47
Small Pox	47	19
Diarrhœa	37	21
Cholera	30	1
Typhus	80	50

Of the 188 deaths from *Scarlet Fever*, 181 occurred at the infantile period of life. The majority of the deaths from Small-pox and Diarrhœa occurred at the same period. But with regard to *Cholera* and *Typhus*, the deaths were more numerous at the adult period of life. Thus, of the 30 fatal cases of cholera, 20 took place among adults; and of the 80 fatal cases of typhus, 47 were registered at this period of life.

In looking over the details of the cases of cholera, we find that those which proved most rapidly fatal occurred among the convicts at the Hulks. The shortest of these terminated fatally in four hours from the time of seizure. In spite of these alarming indications, there is some consolation in knowing that the fatality of other diseases has considerably abated.

We have elsewhere* given all the details which have reached us respecting the cholera up to the time of going to press. We have only to add, that since the 12th inst., nine cases have occurred at Hull: seven of these proved fatal; two on board of vessels lying in the river, and the remaining five in the town.

Reviews.

Chart of the Public Health Act, 1848. By C. E. Bernard, C.E. Bradbury and Evans. 1848.

A most useful table, in one sheet, of all the provisions of this important Act. Medical readers are, we know, most unwilling to wade through the verbose technicalities of any Act of Parliament; and they will here find, in an intelligible form, all the information which they require. The sheet is divided into sections of clauses, with titles printed in red letter, and the object of each clause is plainly marked in distinct black letter, so that reference to any part of the Act is rendered remarkably easy. This Chart will be of great service to all who are interested in sanitary reform.

Plain Rules for Preventing and Treating the Cholera. Drawn up by R. Druitt, F.R.C.S. London: Renshaw. 1848.

Mr. Druitt has here placed on a few square inches of paper, some hygienic rules regarding self-management and treatment during the prevalence of cholera. It is adapted for popular readers. We are glad to perceive that the first rule is to "send for the doctor."

An Inquiry into the Proximate Cause of Gout, and its rational Treatment. By Anthony White, Esq., M.B., Cambridge, late President of the Royal College of Surgeons of England. Pamphlet, 8vo. London, pp. 20: Churchill. 1848.

Dr. White has here reprinted, in the form of a pamphlet, an article which has only recently appeared in our pages. Under common circumstances, it would not be necessary for us to do more than announce its publication; but we are induced to call the attention of our readers to the subject, as the author challenges inquiry with respect to his theory of the cause of gout, and the action of remedies in its treatment. Dr. White's suggestions are also deserving of especial notice, if only for the fact that he has himself been a martyr to this disease, and has gone through all kinds of medical discipline to remove its attacks. He states, that so far as his own experience is concerned, the only plan which has proved successful has consisted in the use of those remedies which tend to increase the flow of bile. He believes that the proximate cause of gout consists in a functional disturbance of the liver, and that unless this be removed by the free administration of calomel and similar medicines, the disease will not be cured. He has long exclusively relied for the cure of gout on the following prescription:—℞ Hyd. Chloridi; Ext. Colch. Acet.; Ext. Aloes purif.; Pulv. Ipecacuanhæ, aa. gr. i. M. ut fiat pil. 4tis horis sumenda. Two or three of these pills are generally enough to act freely on the liver, and this action is then aided by one or two doses of the compound Decoction of Aloes. As the symptoms become abated, the pills may be administered at intervals of from eight to twenty-four hours. The good effects of all the preparations of colchicum he ascribes entirely to the action of this medicine in increasing the hepatic secretion.

Both the theory and mode of treatment are simple. The real question is, how far the views of the author will be corroborated by the experience of others. His plan is certainly deserving of a trial.

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* Page 665.

The pamphlet is sensibly written, concise, logical, and to the purpose. Dr. White deserves great credit for compressing what he has to say in twenty pages. We feel certain that many medical gentlemen, beginning practice, would, with no larger stock of materials, have contrived to expand their thoughts and opinions into a good-sized octavo volume.

Proceedings of Societies.

MEDICAL SOCIETY OF LONDON.

Monday, October 9, 1848.

MR. HANCOCK, PRESIDENT.

Cholera.

DR. CLUTTERBUCK said he had been informed by Dr. Pereira that a decided case of cholera had occurred in the London Hospital, he therefore did not question that the disease now existed in London. He should be glad to hear the opinion of fellows of the Society as to the best mode of treatment: he had himself seen many plans tried, but had never satisfied himself of their success. He was inclined to take a common sense view of the subject and palliate the symptoms, and trust to time for the result: as to any remedies being specific, he was sceptical. If the patient were cold, he should apply heat, and give stimulants, as brandy, ammonia, &c.; if there was vascular excitement, he should treat it on a moderate antiphlogistic plan; if there was pain, he should give opium, as under other circumstances. As to attempting to cure the disease by calomel and opium, by oil of turpentine, naphtha, &c., he should not be inclined to resort to them, as no pathological view was given as a reason for their use. He was inclined to think that cholera was not contagious, as scarlatina or small-pox, but caused by an atmospheric influence. The organs principally affected were those connected with the spinal nervous system; the effect was something like that of strychnine, appearing to affect the spinal, in contradistinction to the central, nervous system.

Dr. LEONARD STEWART said the most staggering objection to the non-contagion of cholera was, that it always appeared first in seaports, although, at the same time, local circumstances might occur to cause it in seaports as well as in other places. He had seen one plan of treatment successful, which was suggested to him by a friend who had been long in the East Indies; he tried it in one decided case. Six grains of tartarized antimony were dissolved in warm water, and half given, and repeated in half an hour: the first dose increased the symptoms, the second threw the patient into a violent heat and perspiration, and in ten minutes he was a changed man, and got quite well without further treatment. This was the only case he had treated on this plan, but his friend had used it frequently. As to opium, and other plans of treatment, he had no faith in them.

Dr. CHOWNE had seen much of cholera, and thought cases were likely to occur, owing to the damp weather, and the unnatural temperature which had existed for some time; but he hoped the cases alluded to were only cases of the cholera of this country. He wished to know if Dr. Clutterbuck had seen cold water tried. At the close of the disease it appeared more cases recovered under that plan than any other.

Dr. CLUTTERBUCK said, the period at which it was tried might account for this, these maladies coming on and going off gradually.

Mr. HIRD inquired if the tartarized antimony increased the vomiting in Dr. Stewart's cases.

Dr. STEWART said it did at first, so much so that the man said, "You've killed me;" but it afterwards threw him into a profuse perspiration, and he merely directed warm tea to be given occasionally; no other treatment was required.

Mr. HIRD had seen much of cholera on a former occasion, in the north of England and in Dublin, and it appeared to him to be contagious under certain circumstances; he had seen cold water tried very largely, and in these cases the disease did not seem to be followed by the consecutive fever which killed so many of the patients treated by calomel and opium. He should be inclined to try mustard emetics, repeated every hour or half-hour, as they did not depress the system like tartarized antimony. He should also apply mustard poultices, hot bottles, and frictions of warm turpentine, in the later stages, to check the enormous secretion from the bowels. He should give two grains of acetate of lead, and half a grain of opium, every hour or two, for a few times. He never saw calomel do any good. A friend of his had recommended carbon in these cases; and it was a fact that the cholera did not visit many of the places where there were springs containing carbonic acid gas. He had certainly seen great relief from effervescing draughts containing carbonic acid gas.

Mr. **Pilcher** said that drainage had a great effect in preventing cholera, and contrasted Birmingham, which was well drained, and escaped easily, with Walsall, which was low, and ill drained, where great numbers perished. He did not consider cholera contagious, it was rather epidemic. He had found opium the best remedy—without depressing or narcotizing the system—but given to arrest purging, and assist the secretion of the kidneys. He had often observed that there was a peculiar expression in the countenances of cholera patients, indicating whether the patient would die or not. There was no pain in severe cases, the nervous system being too much depressed. The saline treatment with oxymuriate of potassa and opium seemed to arrest purging, and restore the secretion of the kidneys. Where urine was secreted, the patient generally did well. Jeremy's specific—a valuable preparation of opium, made with water—was considered a specific in India. He soon gave up giving calomel, as he thought it always injurious.

Mr. **Hird** mentioned that petroleum had been stated to be a specific.

Dr. **Chowne** considered cholera was contagious, but not very contagious. He mentioned a case which supported the views of the contagionists. A person spent the night at an hotel in Newcastle, where a commercial traveller had died of cholera. He returned home, next day, to a healthy district, where the cholera had not appeared. He took the disease, and his brother, and four or five other persons in the same house. A passage to a manufactory ran through his house, and many persons who were in the habit of passing this passage took the disease, and no one in the village took the cholera who had not come in contact with some of them.

ACADEMY OF SCIENCES, PARIS.

State of the Secretions in Cholera.

M. **Burguieres**, sanitary physician at Smyrna, communicated to the Academy a notice of the remarks he had the opportunity of making on the alkaline state of certain liquids of the human body in cholera morbus. M. Andral communicated to the Academy, in the month of June last, a notice of his researches, from which it would appear to result that the different liquids of the animal economy, present in the nature of their reaction, whether acid or alkaline, a constancy greater than had been supposed.

M. **Andral** considered himself justified in establishing, as a principle, that, "the immutability of the secretion of the alkaline and acid principles of the animal humours, is a law of the physiological, as well as of the pathological state." Having at the present time an opportunity of observing the cholera at Smyrna, M. Burguières hastened to examine if the law established by M. Andral found a confirmation in that disease: this examination has led to certain results, which we now proceed to point out.

The blood taken from the vessels during life, or examined in the bodies a few hours after death, did not appear to him to vary in its reaction, which was *evidently alkaline*.

In the earlier stage of the cholera, the perspiration is almost suppressed. In the subsequent stage, it assumes the character of a *cold viscous coating;* this viscous perspiration loses its normal acidity, but does not become alkaline: it has constantly been found neutral. In the period of reaction, the perspiration becomes acid: this is usually a good sign. The liquids from the stomach, and the mucous membrane which spreads over that organ, presented to M. Burguières notable modifications in the mode of reaction.

M. Andral has almost constantly found the vomited matters to be acid, as well as the mucous membrane itself: very rarely this membrane appeared to him neutral: never did it offer an alkaline reaction.

M. Burguières has observed, that from the very first the vomited matters were evidently acid: these matters contained in every case remains of food which had undergone the commencement of digestion. When the patients had vomited three or four times, the natural acidity of the matters vomited disappeared, and gave place to a reaction *manifestly alkaline.* This reaction existed in the case where the vomited matters assumed the white and flocculent appearance, which characterizes in an especial manner the evacuations of cholera patients. When, after death, he examined the liquids found in the stomach, M. Burguières found them to be equally alkaline, even though it sometimes happened that there were remains of food in the midst of these liquids. As to the mucous membrane of the stomach itself, M. Burguières has observed that, amongst the patients which fell victims to the cholera, that membrane presented, instead of its normal acid reaction, a reaction *clearly alkaline.*

The alvine evacuations, as well also as the matters found in the intestines after death, were alkaline. M. Burguières has found the same reaction in different parts of the intestinal canal. It is well known that the secretion of urine is almost always suppressed in cholera. M. Burguières has examined the urine found in the bladder after death: it possessed its normal acidity. In one case he found in the bladder, instead of urine, a small quantity of whitish mucous matter.

"*En résumé,*" says M. Burguières, "I have found in cholera patients the normal acid reaction suspended at the surface of the skin, and replaced in the stomach by an alkaline reaction. It is, without doubt, the index of a great disturbance in the equilibrium of the secretions—a disturbance which does not appear to be found in any other disease." "I would not hastily," continues M. Burguières, "base on these results a chemico-pathological theory, and deduce from it a special mode of treatment; but I think that the facts I have observed indicate the utility of the administration of acid drinks in cholera. It may also be, that the modifications which operate in the mode of reaction of such liquids of the body, are only a very secondary effect of the cholera poison. To speak only of the remarkable change which I have met with in the stomach, a completely physiological explanation may be given to it; that which principally prevails in the cholera is a morbid determination towards the digestive apparatus. This determination, whatever may be its nature, is the same through all parts of the digestive apparatus. The result is, that the special functional reactions are suspended and replaced by the uniform secretion of a liquid which is probably nothing more than the serum of the blood, and which possesses an alkaline reaction. It may readily be understood that this reaction is communicated to the membrane, which, throughout its whole extent, allows the exudation of a liquid in all respects identical.

On the other hand, and in opposition to the idea started by M. Burguières, a letter was received by the Academy, at the same sitting (the illegible signature to which renders it impossible to give the author's name), maintaining an observation which would appear to confirm those already related by M. Baudrimont, and from which he has considered himself authorized to recommend the employment of bicarbonate of soda, as giving useful results in the treatment of cholera. In the case mentioned in this letter, 2 or 3 grammes (30 to 45 grains) of bicarbonate of soda, in a glass of water, had arrested at Ispahan, in October 1847, an attack of cholera already arrived at the icy cold state. The communication of M. Baudrimont above referred to was presented to the Academy a few weeks since. In this communication, M. Baudrimont mentioned the great success which he had found to follow the undermentioned mode of treatment during the prevalence of the cholera in the neighbourhood of Valenciennes, in 1832.

For internal use.—A hot and copious infusion of the flowers of the lime or linden tree, with 4 to 8 grammes (60 to 120 grains) of bicarbonate of soda in each quart.

For external application. — Extensive mustard poultices to the lower extremities, and continued friction with a liniment formed of equal parts of oil and ammonia.

At the sitting of last Monday, M. Pappenheim addressed a note to the Academy, disputing the proposition of M. Burguières, that in cholera morbus the secretions of the mucous membrane entirely change the nature of their chemical reactions.

Medical Trials and Inquests.

TRIAL FOR ATTEMPTING TO POISON A FAMILY BY PHOSPHURETTED HYDROGEN GAS.

Middlesex Sessions, Oct. 14.

John Dolby, a practical chemist at 298, Strand, was indicted for a misdemeanour, "by placing certain noxious matter near the door of a certain room occupied by Sarah Wild and her children, whereby they were rendered ill," &c.

Mr. Prendergast conducted the prosecution, and Mr. O'Brien appeared for the defendant.

It appeared that the defendant had succeeded to the business, as a practical chemist, of a Mr. Maclachlan, at the house in question, in which the prosecutor, a wood-engraver, and his wife, with their family, took apartments in the month of June last. In the early part of the past month some differences arose between the wives of the respective parties, in the course of which it was stated Mrs. Wild had applied the epithet "scum" to Mrs. Dolby, which, coupled with causes of a pecuniary character, determined Mr. Dolby to endeavour to get rid of these lodgers. Finding that no other means succeeded, the defendant caused his apprentice to put some chemical matters into a pot, and having set it on fire, then to place it close to the door of the room which was in the occupation of the prosecutor's family. The result was, that a gas of the most noxious character was evolved, so that in a very few minutes, not only Mrs. Wild, but all the children, were nearly suffocated. They remained very ill for some days, and Mrs. Wild became extremely so, as she had not long been out of her confinement.

Dr. Miller, professor of chemistry, had examined the matter which had been used by the defendant, and stated that it was the phosphuret of calcium mixed with muriatic acid. The effect of the latter was to decompose the former, and thereby to evolve a gaseous substance termed phosphuretted hydrogen. This last-named gas was one of the most obnoxious and offensive of all the gases, and if used in any quantity was decidedly injurious to health. There could be no doubt but that the symptoms which the family of the prosecutor had exhibited had been caused by the step the defendant had taken. It was not chloride of calcium, but phosphuret of calcium; for if it had been the former, it would not have acted as a decomposing agent, as it was in truth an "inert salt."

Mr. O'Brien made a powerful speech to the jury on behalf of the defendant.

The learned Judge, in leaving the case to the jury, said, he must ask them to say whether, in their opinion, the defendant had by himself, or another by his order, placed this mixture at the door of the prosecutor's room with the intention of doing an injury to their health, or whether it had been placed there simply as an annoyance, with the view of getting rid of the family from the house.

The jury having consulted for a few minutes, said that the defendant was guilty of having placed the mixture at the door, but that he had not, in their opinion, done so with any intention of doing the parties harm.

Mr. Prendergast said, that virtually this was a verdict of "Not Guilty," for he could not, upon such a finding, move for judgment.

A verdict of *Not Guilty* was therefore entered.

Correspondence.

REMARKS ON THE CHOLERA.

Sir,—Let the absolute *nature* of cholera be as undecided by the profession now as it was in 1832; I think, nevertheless, that it behoves every one to cast his mite of knowledge into the treasury of *treatment* so far as he can; and, as the disease seems to be gradually advancing upon us, and amidst a variety of opinions published as to the "best course to be pursued," no mention has fallen under my notice of a plan I saw to be the only one successful of the many that were practised in 1832, I beg to trouble you with it, and recal it to the minds of some of your readers, who no doubt treated the disease in like manner, and, I hope, with the same amount of success as I witnessed in nearly twenty cases.

All the *symptoms*, as well as the *effects*, of cholera, in my humble opinion, draw to the conclusion that the portal portion of the circulatory system is the domicile of the choleraic poison, or the part on which it seems to vent all its rage, and from which all its destructive effects to the system at large emanate; and I observed, with this view of its nature, that, if summoned to a case *before collapse* had set in, and bleeding was immediately practised, that, with the aid of mustard poultices over the regions of the heart and liver externally, and calomel, with opium given internally, the patients generally recovered; but if the stage of collapse had been allowed to supervene, they nearly all died.

As for the treatment recommended in the daily papers, and supposed to come from the Board of Health, it no doubt is very good for ordinary English cholera; but I should not anticipate much benefit if pursued with cases of true, or, as the French would say, the "*veritable*," cholera, which we are all so much dreading.—I am, sir,

Your obedient servant,
Albert Owen.

Aylesbury, Oct. 16, 1848.

Medical Intelligence.

THE CHOLERA IN THE METROPOLIS.

There were four cases of cholera reported on Monday in the metropolis. There were scattered cases reported as having occurred in the eastern ports to seamen from the Baltic. Eleven cases were reported on Tuesday in the metropolis, making fifteen cases in addition to those reported by the Registrar-General up to Saturday. Active exertions were making in several districts by the local authorities.

THE CHOLERA ON THE RIVER.

The only accounts of new cases of cholera officially reported on Sunday were from the Thames police, of two sailors just arrived in the river. One was from Sunderland, who was attacked at 8 o'clock on Friday evening, and died at half-past 2 in the morning. The other arrived from North Shields. In this case the attack commenced at 4 o'clock on Friday, and terminated fatally before morning. Inquests were held in these cases, and the medical evidence left no doubt that the deaths were caused by malignant cholera. The police have hitherto entirely escaped.

THE CHOLERA IN BIRMINGHAM.

Oct. 16.—A case of decided Asiatic cholera is said to have occurred in this town last night. Mr. John Cheetham, a clerk in the bank of Messrs. Attwood and Spooner, was seized with unequivocal symptoms on Saturday evening, and expired on Sunday night. Mr. Cheetham was attended by Dr. Wright, Mr. Chavasse, and Mr. Blake, and no doubt is entertained of the disease being Asiatic cholera. The deceased was a healthy person, of regular habits, and resided in George Street, Edgbaston, considered to be a very healthy part of the town.

THE CHOLERA AT UXBRIDGE.

It is reported that four cases, confidently stated to be of Asiatic cholera, were notified at Uxbridge on the 13th instant. In London, on the same day, there were scattered attacks, and very numerous cases of diarrhœa, but no fatal cases.

THE CHOLERA IN THE HULKS.

Woolwich, Oct. 15.—The disease still continues on board the Justitia convict-ship, opposite the Royal arsenal, the number reported up to 12 o'clock on Saturday being 28 attacked since the commencement, there being 3 new cases in the Saturday's report and one death, making in all 6 deaths. There were 3 new cases reported up to 12 o'clock to-day, making a total of 31 attacked, 6 deaths, and 5 recovered. The others are not yet considered to be out of danger. Fortunately there has not been a single case recorded by any of the medical practitioners in the town and parish, and not the least symptoms of the cholera on board the Warrior convict-ship, opposite the dockyard, although the food, confinement, and general regulations of both the convict ships are the same. The peculiarity of the disease being so exclusively confined to one vessel induced us to ask if it was more severe in one part of the hulk than the other, and the reply was, that the whole of the cases originated in the lower deck, on the starboard side and stern of the Justitia; that part being exactly opposite the mouth of a sewer, which empties itself into the Thames. Surely, when that fact becomes known to the authorities, they will not lose a moment in having the vessel removed from her perilous position, or if that cannot be done for a few days, the unfortunate convicts should be removed on shore to some temporary and secluded barrack, where they would run less risk of being attacked by the disease.

Oct. 16.—There have been 4 new cases since 12 o'clock yesterday, making in all 35 cases of attack. There has been one death to-day, and, the names of those who died of cholera having been returned, it appears that eight have died of the disease. The following are their names and the date of the days on which they died:—October 3rd, Owen Jones; 7th, John Rutherford and James Jones; 8th, James Bigwood; 10th, John Debank; 13th, George Mitchell; 14th, William Eastman; 16th, Edward Devine. The number of recoveries returned are five, being the same as yesterday. No cases or the least appearance of cholera have been returned by the medical practitioners in the town and parish of Woolwich up to 12 o'clock to-day; so that the disease is still exclusively confined to the Justitia convict hulk.

THE CHOLERA AT GRAVESEND.

Oct. 15.—Yesterday, as the William and Mathew, of Sunderland, was proceeding down the river from London for Sunderland, and when off this place, Mr. Saunders was summoned on board to see the captain, whom he found in the last stage of Asiatic cholera, and who lived but a few hours after the medical gentleman had used all the appliances necessary for a patient in such a stage of this dreadful disease. Immediately the man died the vessel was directed by the Custom-house authorities to proceed on her voyage, and instructions were, as we learn, given to the mate and crew to commit the corpse to the deep on reaching the open sea.

THE CHOLERA IN EDINBURGH.

FROM the information received in town, it still appears that the progress of the disease was marked and decided in Edinburgh and its neighbourhood. The following were the cases reported of Asiatic cholera from the 4th to the 16th inst., and examined by the local authorities:—

	No. of cases.	Died.	Recovered.	Remaining.
In Edinburgh .	42	34	6	2
Newhaven .	21	15	5	1
Leith . .	27	16	3	8
Total . .	90	65	14	11

On Friday two cases of this pestilence occurred in the Canongate, and one in the Grass-market, all of which proved fatal. On Saturday a young woman in the Grass-market was seized, but she is recovering. On Sunday there were two cases reported in Gladstone's Close, Canongate, one of which terminated in death. One or two more cases were announced yesterday, but the disease is apparently on the decline in the city. Unfortunately, however, it has made its appearance in Leith, where, during the last three days of the week, seven or eight fatal cases occurred. On Sunday, two were added to this list, one of whom was a scavenger, who was at his work in the morning, and a corpse in the afternoon. Yesterday there were four cases, and it was feared that they would all prove fatal.

THE CHOLERA AT HULL.

SINCE our last report a fatal case of cholera has occurred on board a Danish vessel, named the Catharina Maria, Hansen, from Odense, which arrived in this port on the 28th ult. The deceased was one of the crew, named Christian Bruhn, and at the time of the occurrence the vessel was lying in the Humber Dock. The unfortunate man was taken suddenly ill on Monday morning, and died on Tuesday. As the vessel was about to sail that day, Mr. Burt, the Customs inspector of the river, directed the captain to keep the body on board until be got to sea, and then throw it overboard, properly loaded to prevent its rising. These directions were given in pursuance of an Order in Council, dated the 5th of October inst., received by the Customs authorities at this port. The vessel proceeded at once to the Roads, and left the following day.

THE CHOLERA AT AMSTERDAM.

Letters from Amsterdam of the 13th state that several cases of Asiatic cholera have been declared in that city, some of which have terminated fatally. At Königsberg (Prussia) the disease is raging fearfully, and up to the 10th inst. 720 persons had been attacked, of whom 286 succumbed, and only 112 were cured.

THE CHOLERA AT HAMBURGH.

The official reports state that up to the 9th instant the total number of persons attacked was 2,229, of whom 1,043 had up to that day fallen victims; that 411 remained under treatment, and 775 had been cured. The information from Lubeck, where the pestilence had broken out, was unfavourable; it was rapidly increasing.

MEDICAL OFFICER OF HEALTH FOR THE CITY OF LONDON.

At a meeting of the Commissioners of Sewers for the City on Monday last, Mr. John Simon and Mr. George Borlase Childs were nominated out of a list of nineteen candidates, as fit to fill the office of medical officer of the City, until the City sanitary bill comes into operation. One of these candidates will be elected by the Court of Common Council. Dr. Gavin and Mr. Simon underwent some cross-examination respecting their published opinions on the City Health of Towns Bill.

There appears to have been some misapprehension respecting the amount of salary attached to the new office. It has been currently reported that this had been fixed at the low rate of £150 per annum; but the fact appears to be, that this sum is merely a grant of money by the Court of Common Council for the performance of the duties of sanitary officer, up to the 1st of January next, when the City sanitary bill will come into complete operation, and new arrangements will be made.

QUARANTINE AND CHOLERA.

On Tuesday last it was stated, in answer to inquiries made at the Board of Health by persons connected with the shipping of the Port of London, that representations had been made to the Privy Council of the evil and inutility of quarantine, especially after cases of Asiatic cholera had already broken out in different parts of the country in spite of the quarantine. It was announced in the afternoon, however, that in consequence of the Board's notification of the fact of cases of Asiatic cholera being in England, it had been determined, and orders would now be forthwith given, to have the quarantine removed.

THE COLLEGE OF PHYSICIANS OF EDINBURGH ON THE PREVENTION OF CHOLERA.

We understand that instructions to the inhabitants of Edinburgh for the prevention of Cholera have been prepared by the Local Board of Health, and will soon be issued. These instructions having been laid before the Royal College of Physicians by the President, at a meeting held on the 12th instant, they were unanimously and cordially approved of by the College. The medical precautions contained in the instructions of the Board, which we have the authority of the Council of the Royal College to publish, as adopted by that body, and which are called for in consequence of many persons having misinterpreted the directions contained in the official announcement of the London Board of Health, are as follows:—

I. To avoid excess in the use of spirits; experience having shown that it is not uncommon for a fit of intoxication to pass into an attack of cholera.

II. To observe more than ordinary care in avoiding cold from light clothing or wet; and when the body has been accidentally chilled, to restore warmth by artificial means, especially by the warm foot-bath.

III. To use as substantial a kind of food as possible; avoiding free indulgence in liquids of all kinds, and the use of uncooked vegetables, unripe, sour, or stone fruit, the poor kinds of small-beer, all tart sorts of malt liquor, ginger-beer, and acid drinks generally.

IV. To shun long fasts; above all when business obliges any one to be much in places where cholera prevails.

V. To attend to the proper regulation of the bowels; and therefore—

1. To check a tendency to looseness of the bowels. It has been everywhere found that many cases of cholera are preceded for a short time by a warning stage of looseness of the bowels, in which stage the disease may be arrested, although it is with difficulty cured when farther advanced. When any one, therefore, is attacked with looseness, although unattended with pain or other inconvenience, he should, if possible, apply for immediate medical advice. And if advice cannot be obtained at once, he ought in the meantime to take a pill composed of one grain of opium, or fifteen drops of morphia-solution or laudanum in a little water; and he should repeat the dose in an hour, if not relieved. He should also take a teaspoonful of compound tincture of cardamom undiluted, or compound tincture of cinnamon, or

tincture of ginger, diluted with a tablespoonful of water, or, in the want of these, a little warm brandy and water, and avoid at the same time all cold drinks, or much drink of any kind.

N.B. Half the above doses for young persons about fourteen, and one-fourth for children about five. Opium, laudanum, and morphia, not to be given to very young children without medical advice.

2. To correct a liability to costiveness. For this purpose, saline purgatives, such as Epsom salt, Glauber's salt, and effervescing powders, and strong purgatives of all kinds, or large doses of any purgatives, should not be used during the prevalence of Cholera unless under medical advice,—but only such mild laxatives as castor-oil, Gregory's mixture, the lenitive electuary, compound rhubarb pills, colocynth and henbane pills, or any other medicine known by experience to act mildly. And any undue effects accidentally produced by such medicines should be counteracted by opium, laudanum, or morphia, as above.

VI. To attend also promptly to attacks of sickness or vomiting, which sometimes precede the epidemic, and which, after the stomach has been once cleared out, may be treated by the same remedies as those directed for looseness of the bowels.

At the same meeting, the following resolutions were adopted unanimously:—

1. That it is not advisable to remove cholera patients from their own houses if it be possible to command advantageously the means of treating them there; but that, according to experience in the former epidemic, a large proportion of cases must occur in Edinburgh among the lowest population, inhabiting apartments in which it is impossible to treat the sick for want of proper beds, bedding, fires, and other means of heating the body, besides other necessary medical resources.

2. That, on the occasion of the former epidemic, serious injury was in many cases caused in this city by the directions of one of the Boards of Health in London, to avoid the use of laxatives during the prevalence of the epidemic, and rather to encourage a somewhat constipated condition of the bowels—inasmuch as many accustomed to use laxatives, and requiring their occasional or regular use, gave them up, and suffered from the consequences of constipation—the College, seeing no reason why mild laxatives should not be used for the removal of constipation during cholera, and believing that both cholera and other serious intestinal diseases may arise from a neglect of them in many circumstances, unanimously approve of the regulation V. 2, as stated above.

The first of these resolutions is called for in consequence of the condemnation of hospitals, contained in the directions of the London Board of Health, being inapplicable in Edinburgh, where the population chiefly liable to cholera is, in general, absolutely destitute of all the appliances necessary to render medical treatment available. The second has been called for in consequence of many persons here having fallen into the very same error which is stated to have occurred in 1832, although the directions of the London Board of Health are by no means so condemnatory of the use of all laxatives as on that occasion.

The College of Physicians also passed a unanimous resolution strongly approving of the establishment, as in 1832, of Houses of Refuge for the removal of the healthy from localities threatened with a severe visitation of the epidemic. This measure was carried through energetically by the Edinburgh Board of Health during the first epidemic; so that at one period upwards of 700 persons from infected districts were lodged under observation in Houses of Refuge, but allowed to go to their usual places of work. There is no doubt, according to the opinion of the best judges, that the ravages of the disease were in that way greatly circumscribed in various localities in Edinburgh; and that no other measure contributed so much to keep the epidemic within moderate bounds. The utility of such Houses of Refuge must be obvious to all, whether the disease be viewed as originating in infection, or, as seems now far more probable, in a peculiar miasma prevailing with intensity only in limited localities.—*Edinburgh Advertiser.*

MEDICAL POLITICS IN FRANCE.

From a recent return it appears, that out of 3423 persons who have been condemned to transportation on account of their having been concerned in the insurrection of June in Paris, there were only one physician, three medical students, and two chemists.

MEDICAL APPOINTMENTS, LEICESTER INFIRMARY.

Joseph Noble, M.B., of Danett's Hall, and John Barclay, M.D., have been elected Physicians to the Leicester Infirmary, in consequence of a resolution of the Governors, on the resignation of Dr. Freer, to increase the medical staff to three physicians and three surgeons.

ROYAL COLLEGE OF SURGEONS.

Gentlemen admitted Members, October 13th:—T. Wheeler—T. Atkinson—R. S. Stedman — F. Findlater — V. A. Brown— R. E. Unthank—J. Owen.

OBITUARY.

On Wednesday, the 18th inst., Thomas Blanchard, Esq., surgeon, 79, Warwick Square, Belgrave Road, Pimlico.

Selections from Journals.

ON THE OXIDATION OF THE DIAMOND IN THE LIQUID WAY. BY PROF. R. E. ROGERS AND PROF. W. B. ROGERS.

THE processes for oxidizing the diamond hitherto described consist in actually burning this gem, either in the air or in oxygen gas, or in some substance rich in oxygen, as nitrate of potassa. In all of these experiments a very elevated temperature is required. It is therefore interesting to discover that the diamond may be converted into carbonic acid in the liquid way, and at a moderate heat, by the reaction of a mixture of bichromate of potassa and sulphuric acid; in other words, by the oxidating power of chromic acid. To succeed in this experiment, it is necessary to reduce the diamond to the most minute state of division. A single grain of the gem will suffice for many experiments. In repeated trials more than half a grain has never been used,—and clear evidence of the oxidation has been obtained by the evolution of carbonic acid. The bichromate of potash when heated is always found to afford some carbonic acid,—but error from this source is avoided by first heating the acid alone in the retort to about 350°, then adding the bichromate by degrees, and stirring the mixture so as to effect a complete separation of chromic acid. A very brisk reaction takes place—much oxygen is disengaged, and with it any carbonic acid which the materials themselves are capable of evolving. When no more carbonic acid can be detected by the lime-water test, the powdered diamond is carefully added. The evolution of carbonic acid is soon evinced by the growing milkiness of the lime-water, and this continues slowly to increase so long as there is any free chromic acid left in the retort. The chief point of interest in the subject, however, is the fact—now published for the first time—that the diamond is capable of being oxidated in the liquid way, and at a comparatively moderate temperature—varying between 350° and 450°.—*British Association, Athenæum report.*

CASE OF CHRONIC TETANUS SUCCESSFULLY TREATED BY ETHER INHALATION.

DR. ISAAC PARRISH read to the Philadelphia College of Physicians, March 7th (*Trans. Coll.* vol. ii. No. 4), an interesting case of phlegmonous erysipelas, commencing in the finger and extending up the hand and arm. Rigidity of the jaws supervened on the sixth day, followed by shooting pains up the limb to the neck and jaws. The preparations of opium, assafœtida, &c., having failed to make any impression, the inhalation of ether was tried on the seventh day, and it produced a most favourable anodyne effect, causing several hours' refreshing sleep. The inhalation was repeated on the eighth day also with a favourable effect. Convalescence from this time was confirmed, and the patient recovered.—*American Journal of Med. Sciences*, July 1848.

THE USE OF ERGOT IN POST PARTUM HÆMORRHAGE.

WE have mentioned the administration of ergot of rye as a preventive of *post partum* hæmorrhage; and in the Hospital we have seen such decidedly favourable results from its use, when employed for this purpose, as to have no hesitation in pronouncing the practice to be both safe and efficient. With this intention it may be given at one or other of three periods: namely, when the head of the child is on the perinæum, and about to be expelled; or immediately after the head has cleared the os externum, and before the shoulders have passed; or, thirdly, so soon as the insertion of the cord into the placenta can be felt. "By giving ergot before the child has been expelled, some time may be gained; but should the placenta be morbidly adhering to the uterus, the difficulty of introducing the hand for its removal will be greatly increased. By adopting the third plan, this source of apprehension is avoided. To this method it may be objected that much time will, perhaps, elapse, and a considerable quantity of blood be lost, before the ergot is administered; nevertheless, the possibility of the placenta being morbidly adherent should be ever present in the mind of the practitioner, and deter him from resorting to a measure which may so greatly augment the danger of the complication." Dr. Johnson, who introduced the practice into this Hospital, generally gives the ergot according to the mode last recommended. In certain instances, however, where from previous losses it was a matter of the utmost importance to prevent any further hæmorrhage after delivery, we have not scrupled to administer it in the second way spoken of above, and hitherto without any unpleasant effect. Here, as on every other occasion, we should be careful to use ergot of undoubted genuine quality, for otherwise its exhibition can be productive of no good, and will only cause disappointment. Few medicines so readily spoil, or are to be found of such variable quality; and this circumstance goes far, we think, to reconcile the conflicting opinions which have been entertained respecting its properties and doses.—*M'Clintock and Hardy's Practical Observations*, pp. 220 and 221.

BIRTHS & DEATHS IN THE METROPOLIS

During the week ending Saturday, Oct. 14.

BIRTHS.		DEATHS.		*Av. of 5 Sum.*	
Males....	706	Males....	470	Males....	581
Females..	597	Females..	521	Females..	573
	1303		991		1154

CAUSES OF DEATH.

		Av. of 5 Aut.
ALL CAUSES	991	1154
SPECIFIED CAUSES	990	1149
1. *Zymotic* (or Epidemic, Endemic, Contagious) *Diseases*	448	270
Sporadic Diseases, viz.—		
2. Dropsy, Cancer, &c. of uncertain seat	36	52
3. Brain, Spinal Marrow, Nerves, and Senses	84	127
4. Lungs and other Organs of Respiration	90	222
5. Heart and Bloodvessels	32	38
6. Stomach, Liver, and other Organs of Digestion	40	67
7. Diseases of the Kidneys, &c.	8	12
8. Childbirth, Diseases of the Uterus, &c.	9	14
9. Rhematism, Diseases of the Bones, Joints, &c.	1	8
10. Skin, Cellular Tissue, &c.	1	2
11. Old Age	32	64
12. Violence, Privation, Cold, and Intemperance	22	32

The following is a selection of the numbers of Deaths from the most important special causes:

Small-pox	47	Paralysis	12
Measles	10	Convulsions	26
Scarlatina	188	Bronchitis	25
Hooping-cough	24	Pneumonia	51
Diarrhœa	37	Phthisis	96
Cholera	30	Dis. of Lungs, &c.	7
Typhus	80	Teething	2
Dropsy	13	Dis. Stomach, &c.	3
Sudden deaths	10	Dis. of Liver, &c.	6
Hydrocephalus	16	Childbirth	4
Apoplexy	22	Dis. of Uterus, &c.	3

REMARKS.—The total number of deaths was no less than 163 *below* the weekly autumnal average. See page 680.

METEOROLOGICAL SUMMARY.

Mean Height of Barometer .... 29·82
" " Thermometer[a] .... 52·1
Self-registering do.[b] .... max. 87° min. 33·2
" in the Thames water — 61° — 52·5

[a] From 12 observations daily. [b] Sun.

RAIN, in inches, 0·42: sum of the daily observations taken at 9 o'clock.

Meteorological.—The mean temperature of the week was 3°.2 above the mean of the month.

BOOKS & PERIODICALS RECEIVED

DURING THE WEEK.

The British Record of Obstetric Medicine. No. 20, October 1848.

On Functional Diseases of the Liver associated with Uterine Derangement, by Butler Lane, M.D. &c.

Hints on the Malignant Cholera, by Dr. B. White, M.D. &c. 1832.

The Nature of Cholera investigated, by John George French, Resident Surgeon to the Infirmary of St. James's. 1835.

Revelations on Cholera, or its Causes and Cure, by Samuel Dickson, M.D.

Practical Observations on the Nature and Treatment of Cholera, by G. H. Bell, F.R.C.S.E.

(The remainder will be given in our next No.)

NOTICES TO CORRESPONDENTS.

We regret that the pressure on our columns is at present so great as to render it impossible for us to find room for the Report of the Benevolent Fund.

The papers forwarded by Dr. Jameison, Aberdeen, and Dr. Gavin Milroy, shall be inserted so soon as our arrangements will permit.

Mr. Hicks's request shall be attended to.

The space occupied by Lectures in this number has rendered the postponement of the following communications, which are in type, unavoidable; namely, those of Mr. Swan, Mr. Macdonald, and Dr. Parkes.

Dr. D. B. White's pamphlet on Cholera, although of old date, shall receive our attention.

Fatal Dose of Arsenic.—A correspondent has called our attention to an error in the report of a case of poisoning by arsenic, at page 87 of the present volume. It is there stated that the deceased died from a dose of 1·83 grains. As, however, half an ounce of Fowler's Mineral Solution was swallowed in divided doses, the quantity of arsenic taken must have been *two grains*. The fact is of importance, as this is the smallest quantity of arsenic which has been known to destroy life.

Mr. W. B. Kesteven.—We are obliged by the translation, which shall be inserted.

M. E. H. Durden.—Your request shall be complied with. We hope to receive the *reports* with regularity.

Studiosus Medicinæ.—Our list is at present filled up.

Dr. Seaton.—Received too late for this week.

RECEIVED.—Dr. Mayo.—Dr. C. H. Jones.

THE GENERAL INDEX.

We have to announce to our Subscribers that a GENERAL INDEX to the *first* 40 *Volumes* of the LONDON MEDICAL GAZETTE will, it is calculated, form a large Volume of about 700 pages. The cost of the INDEX VOLUME, respecting which many inquiries have been made, will be Twenty-four Shillings; and it is proposed to commence it so soon as the Names of *Five Hundred Subscribers* have been obtained.—The printers, Messrs. WILSON AND OGILVY, 57, Skinner Street, will receive the Names of Subscribers.

London Medical Gazette.

Lectures.

COURSE OF SURGERY,

Delivered in the years 1846 *and* 1847,

By Bransby B. Cooper, F.R.S.
Surgeon, and Lecturer on Surgery at Guy's Hospital.

Lecture XLI.

DISEASES OF THE RECTUM.

Functions of rectum—defæcation and nutrition. Prolapsus ani—causes—treatment—constitutional and mechanical. Diagnosis between stricture of the rectum and piles. General treatment of piles—bleeding sometimes the only symptom of internal piles—removal by ligature. Method of exposing internal pile—administration of opium—removal of external pile—excision—use of rectum bougie.

Warty excrescences and condylomata about the anus—syphilitic excrescences.

Fissure of the rectum—cause—constipation—diagnosis—cure by operation, and constitutional remedies.

The rectum must be regarded almost exclusively as an organ of defæcation, although it must be admitted that it may assist to some degree in the process of nutrition; and this is proved by the benefit derived from the administration of nutritious enemata. At the same time we find that in the diseases of this organ any disturbance in its functions as an excretory apparatus, calls much more urgently for surgical interference than any diminution of its absorbent powers.

Prolapsus ani, the protrusion of the mucous membrane of the rectum through the anus, is a very common affection, and although not in itself of a dangerous character, it is very frequently the result of general debility, and must be considered as evidence of some very serious constitutional derangement. Costiveness is perhaps one of the most frequent exciting causes of prolapsus ani, which in such cases arises in great measure from the constant straining necessary to produce evacuation of the bowels, which, in case of prolapsus, is indeed generally attended by the passage of a greater or less quantity of blood. That straining is an exciting cause, is, in my opinion, sufficiently proved by the circumstance that prolapsus ani is so often a concomitant with stone in the bladder or stricture in the urethra; and, indeed, straining may naturally be looked upon as the cause of prolapsus, for, by a continuation of that action, the power of the abdominal muscles and levator ani is brought to preponderate so much over that of the sphincter, as to deprive the rectum of the support of the latter muscle; the necessary consequences being the eversion and protrusion of the mucous membrane. When costiveness is the cause of prolapsus, purgative remedies are chiefly indicated; but, gentlemen, if in aggravated cases you were to rely upon these alone, I do not think that you would easily succeed in removing the disease, and might, indeed, in many instances, greatly increase it. Strict attention to diet, change of air, tonic medicines, shower baths, and restringent injections into the rectum, are all requisite; such aperients alone being employed as tend gently to produce the increased peristaltic action of the bowels, rather than to command it though the potency of the medicine. It is also highly important to induce a habit of evacuating the bowels shortly before bedtime, as the recumbent position of the body relieves the rectum from the pressure of the small intestines, and admits of its ready return into the pelvis; while, if the bowels be evacuated immediately after breakfast, as is usually the habit, the continued erect position and muscular exertion almost inseparable from the avocations of the day, prevent the rectum from receding, and tend, in fact, to increase the protrusion. In very protracted cases of prolapsus, palliative means may not prove sufficient, and mechanical contrivances may be requisite to return the protruded membrane within the anus: bougies, or the finger may be employed for this purpose; but in some instances the tone of the sphincter may be so completely destroyed that it would be incapable of retaining the intestine even after it is returned: a pessary should in that case be passed into the rectum, and allowed to remain there for a few hours, so as to maintain the loose portion of membrane sufficiently long in sitû to allow of its recovery from the congestion arising from its protrusion and exposure to external agency. I have seen an instrument which is worn by the Chinese, who are very liable to prolapsus ani, for the purpose of retaining the bowel within the anus. It consisted of a ball of silver, perforated with holes, to permit of the escape of flatus, and made to unscrew in the middle, so that it could be easily cleaned: this instrument appeared to me to be admirably suited to the purpose for which it was intended. When a pessary is employed, it should be passed into the bowel above the sphincter muscle, otherwise it would prove a source of increased irritation rather than of relief. And at the same time that mechanical contrivances are made use of, constitutional means should also be adopted

xlii.—1091. *Oct.* 27, 1848.

for the purpose of improving the tone of the health. In spite, however, of all these means, the prolapsus may remain unrelieved, in which case a surgical operation must be undertaken, in the hope of effecting "a radical cure." This object may sometimes be attained by pinching up with a pair of forceps a small portion of the mucous membrane of the bowel, and securing it with a ligature, taking care not to include anything besides the mucous membrane. In this manner two or three different portions may be taken up just above the sphincter at about equal distances from each other, and each being tied, the resulting cicatrization will produce a very uniform contraction, so as to prevent the future protrusion. I have also in two or three obstinate cases divided the anal extremity of the sphincter muscle, for the purpose of permanently diminishing the size of the opening of the anus; the after treatment consists in keeping the patient in the recumbent posture, and maintaining for a few days a constipated state of the bowels, to enable the parts to recover from the effect of the operation.

Prolapsus ani may in some cases prove in itself dangerous to life; the following case affords a good example of the urgency of the symptoms that may appear under such circumstances:—A gentleman sent for me to visit him, in the neighbourhood of Croydon; when I arrived at his house, I found him labouring under all the symptoms of strangulated hernia, and these so strongly marked that I proceeded at once to examine for the hernia, which I expected to be the cause of his disorder. I could not, however, detect any external tumor to account for the severe symptoms, although I asked him repeatedly whether he was conscious of the existence of a protrusion in any part of his body: just, however, as I had decided that he was the subject of some internal obstruction, he remarked, "By the way, there is something queer about my fundament:" upon examining that part, I was astonished to find not less than three inches of rectum protruded from the anus; the protruded part was highly congested, and so dark in colour that I doubted whether sphacelus had not already commenced: I endeavoured to return the bowel, but the constriction at the anus was too great to admit of its passing back; I then applied cold to the part, but this also proved inefficacious; and as relief was urgently demanded, I proceeded to make numerous longitudinal incisions in the mucous membrane to liberate the overcharged vessels: from the quantity of blood lost I was now enabled to return the prolapsed intestine into its proper situation. This, gentlemen, was in fact a true case of strangulated hernia, under conditions quite new to my experience of the subject.

Prolapsus ani may be considered by some as too unimportant a disease to deserve the detailed account I have given of it; but although it is quite true that this complaint rarely proves dangerous, it is nevertheless a source of such excessive inconvenience, and produces so much excessive depression, that I know of no cases in which the reputation of a medical practitioner is likely to be more enhanced than in its successful treatment.

Hæmorrhoids or Piles.—These painful tumors must be looked upon as resulting from a varicose condition of the veins of the rectum; a state generally produced by some obstruction in the portal system.

I may here remind you, gentlemen, that the superior hæmorrhoidal vein returns its blood to the vena portæ, which, if it become obstructed from disease of the liver, would necessarily tend to congestion of the veins of the rectum; and this anatomical fact teaches us that, in piles, the remedies may often be advantageously directed to the relief of the loaded liver. High living, want of exercise, or constipated bowels, frequently, therefore, induce congestion of the veins of the rectum, and their consequent varicose condition. If this congestion become permanent, the blood within the veins coagulates, and, acting as extraneous matter, excites inflammation in the surrounding submucous cellular tissue: adhesive matter is then thrown out, and unites the congeries of varicose veins into a solid mass, which constitutes a pile. It sometimes happens that some of the veins included in the adherent mass still contain fluid blood, and therefore slight hæmorrhage occasionally occurs. From these bleedings the patient frequently derives so much relief as to be led to believe that the attack of piles has subsided; such relief is, however, generally but of short duration, as the vessels soon fill again, and produce a return of all the symptoms.

Hæmorrhoids, moreover, necessarily produce great obstruction to the passage of the egesta, and the piles are often forced down by the efforts of the patient during evacuation, so that they protrude through the anus, often attended by considerable prolapsus; generally, however, upon the completion of the act of defæcation, both the hæmorrhoids and the prolapsed bowel spontaneously return into the anus. Sometimes the piles become so much elongated by frequent protrusion as to be rendered permanently external; when, from exposure to constant friction and other sources of irritation, their mucous membrane soon becomes converted into true skin. It would be supposed that in this condition the hæmorrhoids would produce much less irritation, but such is not the case; for as they still remain connected with the interior of the rectum, they continue to excite considerable disturbance, and sometimes, becoming themselves inflamed, require leeches, and strict dietetic observance, for their relief, it being also necessary that the patient should be kept in the recumbent position. External piles do not, however, always appear as the mere result of the protrusion of internal piles, but are sometimes entirely independent of them, and arise from inflammation and thickening of the subcutaneous cellular tissue around the anus: these piles are apparently unconnected with a dilated condition of the veins, although originally the congestion of the latter may have produced the inflammation.

External piles, even when unattended by internal, frequently produce prolapsus ani, extreme pain in the course of the sciatic nerve, pain in the perineum, and in some instances even difficulty in passing the urine; nor are these phenomena inexplicable to the anatomist and pathologist, when it is remembered that these parts are supplied by filaments of nerves derived from the same source. The excision of the piles forms, however, an almost infallible means of removing all these symptoms. A short time since I was consulted by a patient in the Edgware Road, who was the subject both of internal and external piles: his medical attendant had tied several of the internal ones without affording any permanent relief; but when I removed the external hæmorrhoids the patient was rapidly cured. In another case, I was called to a lady, a governess in the family of a nobleman: part of her duties consisted in walking out with her pupils, but this exertion caused her so much pain that she was obliged to confide her condition to the elder of the ladies, and whenever they went out to walk she was in the habit of going to lie down at the house of a friend close by: this could not go on long, and she was obliged to seek medical aid. She told me a pitiable tale of her sufferings: the piles were external, and were attended by frequent bleedings, but after I excised them, she very rapidly recovered. I remember also the case of a gentleman, who was very fond of hunting, but who was afflicted by piles to such a degree that his saddle was often covered with blood: at length the disease became so bad that he was obliged to give up his favourite amusement. I then saw him, and after having excised the piles, treated him with enemata and laxatives; principally, however, insisting upon the necessity for always passing his motions at night. He very soon recovered, and it is now eight years since he had any symptom of a return of his complaint.

Whether the piles be internal or external, they necessarily cause great inconvenience in the act of defecation, and the fæces are generally passed in small portions, and are often attended by a flow of blood: these symptoms are not, however, referrible to piles alone, as they may equally proceed from stricture of the rectum. It may, however, easily be ascertained by an examination per anum, whether the symptoms are produced by piles or stricture. The first treatment of piles should always bear reference to the state of the patient's general health; for, as they usually depend upon some disturbance to the function of the liver and bowels, or both, until the healthy action of those organs be re-established there can be but little hope of removing the local disease. Small doses of mercury to act on the liver, and mild purgatives to excite a healthy action of the bowels, constitute the means to be employed; but the purgatives should be of the least drastic nature, and not likely to act especially upon the lower bowels. The nostrum termed "Ward's paste," or the Confec. Piper. Nigr. of the London Pharmacopœia, will be found useful; but if they should produce nausea, as they frequently do, I have found the following prescriptions of very great benefit in restoring the natural action of the bowels:—℞ Aloes Decoc. Co. ʒiss.; Sarsæ Ext. ʒss.; Sarsæ Decoc. Co. ℥iss. M.—Ft. haustus ter quotidie sumendus; giving also an alterative pill two hours before dinner to induce evacuation of the bowels at bed-time. If the irritation still remains, so as to create an uncontrollable action of the bowels, considerable benefit will be derived from the use of the following pill:—℞ Morph. Acet. gr. $\frac{1}{8}$th; Hyos. Ext., gr. iss.; Camphoræ, gr. ij.; Colocynth Ext. Co., gr. ij. M.—Ft. pil. bis terve quotidie sumenda.

For the reasons I have already adduced in speaking of the treatment of prolapsus ani, the patient should resist as much as possible the habitual desire to evacuate the bowels in the morning. I believe there are but few cases of hæmorrhoids that would not yield to judicious constitutional treatment, if the subject of the disease did but apply earlier for medical assistance. Generally, however, he defers calling in the surgeon until the piles have become permanently beyond the reach of medicine, and require, therefore, a surgical operation for their removal. Bleeding is sometimes a symptom of hæmorrhoids, even when there are no external signs of the disease; and it is not uncommon for patients to become anæmiated from this cause, without their being aware of the nature of their complaint. When called in to such a case, an examination per anum should be made, and if an internal pile be discovered, it should be at once removed; for it would be injudicious to wait for the operation of constitutional remedies, as the hæmorrhage may recur to such an extent as to endanger the safety of the patient. When piles, either internal or external, present an organization which renders them incapable of being relieved by medical treatment alone, they must be removed by surgical means; but the plan to be adopted varies very essentially according to the kind of pile.

Internal piles, which are only covered by mucous membrane, should always be removed by ligature, in consequence of their great tendency to bleed; and, indeed, I have known more than one instance of death from excision in such cases. There is, however, sometimes a degree of difficulty in exposing the pile sufficiently to enable you to apply the ligature; but this may generally be effected by causing the patient to sit over a hand-basin filled with hot-water, and placed upon the floor, so that he is obliged to stoop or crouch over it. By some straining the pile will now generally protrude, and the ligature can be passed around it: the mucous membrane and submucous cellular tissue must alone be included, and then the operation is attended with but little pain. If the base or root of the pile be very broad, the ligature may be applied by another method. A needle, armed with a double silk, should be passed through the centre of the tumor, and the threads being separated are tied on opposite sides, each including one half of the pile. The latter should then be laid open by the knife, which affords great relief to the constriction, and is wholly without danger, as the ligatures preclude hæmorrhage. After the operation, the patient should be kept in the recumbent posture, upon low diet, and a dose of opium be administered, to keep up a constipated state of the bowels until the ligature has sloughed away. An external pile is better removed at once by excision; and, in performing this operation, the pile should be taken off by one sweep of the knife: if there be more than one pile to be excised, it is best to remove them all at the same "sitting," as in that case the patient suffers less constitutional irritation than when each pile is made the subject of a separate operation. In thus removing piles, there is, however, one point that ought not to be lost sight of: the process of cicatrization will necessarily contract the verge of the anus; and, unless some mechanical means be employed to obviate this, there would arise permanent difficulty in expelling the fæces. Bougies should therefore be daily passed during the progress of the healing process, to prevent such contractions.

Should you have to perform this operation, gentlemen, you must not be disappointed if for the first three or four days the patient seems to have received but little relief; and, indeed, a fresh growth of piles sometimes appears to be formed; these generally prove, however, to be nothing more than folds of mucous membrane, which pass down probably in consequence of some of the fibres of the sphincter ani muscles having been divided. Such protrusions generally subside by the application of cold poultices; and the reunion of the sphincter muscle prevents their return.

Prolapsus ani, as I have already said, is a frequent result of external piles, and the removal of the latter almost invariably cures that tendency. I am inclined to believe that excision of a portion of the circumference of the anus would prove a more certain means of radical cure of prolapsed rectum than the operation usually had recourse to, viz. removal of portions of the mucous membrane of that intestine by means of ligatures.

Condylomatous growths are frequently formed about the verge of the anus; these may be mistaken for external piles, but are generally produced by the irritation caused by the discharge in protracted gonorrhœa: they rarely require excision, as the "yellow wash" may almost be considered as a specific for the disease. Another description of warty excrescence follows syphilitic affections, but it may be distinguished from that in gonorrhœa, as they resemble rather warty granulations, and are attended by considerable discharge and pain, and can only be cured by the internal administration of mercury: they are generally attended by sore-throat, cutaneous eruption, or some other symptoms which mark their syphilitic character. A question may arise as to the source of these warty excrescences: they certainly must be considered as primary symptoms of syphilis, and can therefore only be generated by inoculation, to which there must be some considerable liability, from the frequent existence of excoriation about the anus, and the proximity of the originally affected parts.

Fissure of the rectum.—I have rarely met with this disease in hospital practice, but have found it not unfrequently among the higher classes of society, particularly in females; and it may perhaps be considered to depend upon luxurious habits of living, want of sufficient bodily exercise, and also from inattention to the state of the bowels, as constipation is usually concomitant with the complaint. Protracted constipation tends to induce a state of contraction, and consequent resistance of the sphincter muscle; so that, the fæces being retained in the rectum, from the altered condition of the sphincter, the mucous membrane of the bowel becomes inflamed; there is produced a liability to ulceration, and fissure is no doubt the frequent consequence. The existence of fissure is indicated by an excruciating pain in the rectum, which is felt for an hour or two after defecation. The remarkable acuteness of this pain forms the principal diagnostic mark of the disease; for in prolapsus and fistula in ano the character of the pain is rather aching than acute. The pain of fissure is sharp and stinging, and generally confined to one part of the bowel, usually on its posterior surface towards the os coccygis. The description of this kind of pain would lead the surgeon at once to make an examination per anum, when the excessive pain experienced on passing the finger through the sphincter would constitute an additional diagnostic sign of the nature of the complaint. When the finger is introduced, which, from the irritability of the muscle, can only be effected with some difficulty, a ragged depression will be distinguishable in the mucous membrane; an accurate appreciation of the length and depth of the fissure will thus be obtained, and, when the finger is withdrawn, a stain of blood is perceivable on it, which indicates in some measure the form and extent of the ulcer. This disease may be readily cured by the following means:—A straight probe-pointed bistoury should be passed along the finger through the anus, so as to divide, in a longitudinal direction, not only the ulcerated mucous membrane, but also the subjacent muscular fibres of the sphincter, which prevent the healing of the ulcer by their frequent contractions. The knife must not be employed too freely, as there would be danger of cutting through the bowel; but here, as I have before often remarked, the degree of force that may be safely employed can only be learned by practical experience. During the operation the patient must be placed in the prone position, with his feet resting on the ground and his body lying across the bed: the ulcer will then be found on the upper or coccygeal surface of the bowel, and conveniently placed for making the incision. Nitrate of silver, or lotions of any kind, are unavailing in this disease; but in almost every case the above operation affords a certain means of cure. It is true that the operation removes only the effect, the cause still remaining; but this also may generally be overcome by a strict system of diet, and the employment of such constitutional remedies as the peculiarities of the case indicate. A very similar fissure often occurs in the centre of the lower lip. This sometimes resists all local applications, but I have cured it upon the principle just described; that is to say, by dividing the fibres of the orbicular muscle immediately below the fissure, the consequence being that the ulcer which had remained unhealed for several months was completely cured in the course of a very few days.

LECTURE
ON THE
PREVENTION OF ASIATIC CHOLERA.

Delivered, October 9th, at the York Medical School,

BY THOMAS LAYCOCK, M.D.

Physician to the York Dispensary, and Lecturer on the Theory and Practice of Medicine

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Disputes as to contagion—two general facts—definition of terms—contagion always conditional—nature of conditions requisite—quarantine—comparison between the progress of imported plague and cholera—commercial jealousy of the doctrines of contagion—prevention of transmission of poison—the latter may be packed up and transmitted by public conveyance—use of dry hot air—removal of moisture—ventilation—bad effect of crowded assemblies facilitating transmission—conditions exempting from, or predisposing to, contagion in the individual—latent period—elimination of the poison—diarrhœa a stage of the disease, and infectious—does the cholera poison always induce cholera?—treatment of early stage—predisposition from hepatic and renal disease—from the presence of other poisons in the blood—from depressing agencies—causes of the decline of the epidemic—cholera a contagious fever.

THE occurrence of a few sporadic cases of Asiatic Cholera on board ships lying in one or two of our northern ports, reminds me of a practice which we have previously adopted, of taking special note of epidemical diseases. On former occasions I had to address you on epidemic diarrhœa, on epidemic scurvy, typhus and influenza; and it seems as if we had gone back to the middle ages, not merely in matters of taste and *vertu*, but also in the more serious and substantial realities of wide-spreading and destructive epidemics. I confess that I cannot look upon this state of things without some apprehension as to the results to humanity, and even to civilization. Epidemic disease has been combined in Europe before this with failing crops, sinking commerce, and international and civil wars, and civilization then took a mighty step backwards. The existing generation in Europe has enjoyed a long peace, and upon the whole prosperity; but things have wonderfully changed within the last few years, and it may be called upon to endure a sad contrast.

Whatever war or famine may do or require, the medical profession comes into close combat with pestilence. History teaches this one great sorrowful lesson, that when the enemy is fairly abroad in his might, our weapons are utterly useless. Let the monster attain but a moderate growth, and our efforts to subdue him are weak as "the idle wind." Our strength is in the prevention of that growth.

To succeed in an attempt of this kind, we ought to know thoroughly what we have to prevent. Can we say this of Asiatic cholera? The newspapers tell us that at Damascus 10,000 persons died of the disease between the 6th and 26th of August last, and there are distinguished men who maintain that such a fact is amply sufficient to prove it to be communicated from man to man; but there are others, equally distinguished, who maintain just the contrary: and thus, at the very outset, there is a great stumbling-block to the means of prevention; for what can we know of the disease when authorities are equally balanced on such an essential fundamental point as this?

Now if I thought that any discussion on the point would be of use to you, I would enter upon that discussion, but I believe the question has been discussed at the utmost length over many a weary rood of printed page, and not only has the question as to the contagiousness of cholera been so discussed, but also that of plague, without any substantial result. I have read of physicians going to Egypt for the purpose of proving the non-contagiousness of the plague by getting inoculated with its virus, and there dying of the disease,—so great was the warmth with which they maintained their doctrine. Now you will observe one peculiarity in all these discussions—namely, that the contending parties get bewildered and vexed in a host of minutiæ as to the mode of transmission of the virus; as to the escape of this person from the disease, and the attack of that person by it, &c. and so lose sight of the main point—the great practical questions of the nature of the poison and its relations.

What are the universal facts observed with regard to cholera? In the first place, many are attacked, but a greater number escape—and why? See what an important question this is in prophylaxis; for if you can put a *whole* population into the same situation as that portion is in, which escapes, the disease is extinguished. In the next place, as a general rule, it begins with sporadic cases—droppings, as it were, before the thunder-shower—in the locality about to be affected; and it gradually increases in intensity until it attains a climax, and then declines—and why? Here is another important question; for if we can induce the same circumstances at the outset which occur at the decline of the disease, it need never appear except sporadically.

Let us first fix the meaning of terms to be used in our inquiry; for I believe three-fourths of the confusion which arises in the discussion, as to the spread of febrile diseases, arises from a misapprehension of terms. I have just used the term *sporadic*: it means scattered, dispersed, *disseminated (Græcè)*, cases, one dropped here and there, like seeds: thus, variola or scarlatina may be sporadic—there being a few dropping cases here and there. But if circumstances favour their spread, and if there be a number of persons predisposed to be acted on by the contagious principle, then they will become *epidemic*—that is to say, *generally prevalent amongst the people*: for that is the meaning of the term. So, then, a disease is epidemic when it is generally prevalent, whether it be contagious or not. But what do I mean by contagion, you will ask? Why, this—that there is a *materies*, either solid or gaseous, given off by or from the bodies of persons labouring under a disease which is received into the blood of another person, and which, if (when received) it produces a morbid change in the blood, that change is followed by morbid phenomena, like those under which the originally diseased person laboured. Without these conditions there can be no contagion. Strictly speaking, the term means the communication of the poisonous *materies* by actual contact; but if the poison be in the atmosphere (as it is in the majority of contagious fevers), still it comes to the blood by contact—in fact, we may say, by *direct* contact through the lungs. Contagion, then, or the *production* of the disease, can only be *conditional*; if it were absolute and unconditional, the human race would by this time have been exterminated. Fortunately, the conditions the concurrence of which is necessary are so numerous, that it is only at considerable intervals that that concurrence takes place and fever becomes epidemic at all, and even then only a fraction of the population are subject to its influence by presenting the necessary conditions. As the whole force of prophylaxis must, I think, be directed to the removal of these conditions, let us consider what they are. I shall assume that cholera is a contagious disease, in the sense I have just laid down; for, as I have no doubt whatever on this point, it is my duty to assume the doctrine in this discourse. Anything like a discussion of the question would be altogether out of place. You will do well to remember that the principles of prevention I shall state are applicable to all other contagious fevers.

There must be a generation of the *materies morbi* in a diseased person—we have no proof it can be generated in a healthy one; consequently, the first rule of prevention is to prevent the diseased coming into contact with the healthy: quarantine is put in force. So long as cholera ravaged distant countries no precaution was taken; the diseased population was too remote for us to fear contact with them; but now, when it is near to our own coasts, as at Hamburgh, the Government is taking active measures to enforce quarantine. The period of isolation is limited to six days: it is doubtful whether this be sufficient or not; but even if it be, I entertain very slight hopes that the importation of the *materies morbi* can be prevented by any measures of the kind as adopted at present: the poison may be introduced at so many points, by means of clothing or goods, or even by persons who, at the time of landing, are in good health. Now, it is a strong argument in proof of cholera being contagious, that it has hitherto shewn itself in England only on board of ships from an infected place—namely, Hamburgh; and in this respect it presents a close analogy in its progress to plagues admitted to be such. I will give you an example. On the 25th of May, 1720, a trading vessel arrived at Marseilles from the coast of Levant, with clean bills of health, the plague not having appeared there till after her departure. In her voyage she touched at Leghorn, where some of her crew died of what was supposed to be a malignant fever. Another sailor died two days after arriving at Marseilles, and then one of the quarantine guards stationed on board. In a week or two dropping cases began to occur in other vessels arriving from the Levant, where the plague was now declared; but it was not until the 8th of July that the plague *bubo* shewed itself. The physicians now raised the alarm, and the means taken to arrest the progress of contagion prevented the immediate spread of the disorder; but the common people began openly to insult the physicians and surgeons, whom they accused of causing false alarms, injurious to the town. This has always been the case in commercial communities; and you will find a repetition of this conduct in England, as soon as the cholera spreads. Even now the newspapers are denouncing as "old women," those gentlemen who think some precautions should be taken against cholera as a contagious disorder. The sporadic instances are occurring amongst shipping population, as of the plague at Marseilles. But the people of that emporium paid dearly for their folly in insulting their best friends: their murmurs were soon suppressed by the progress of the disorder itself, which attacked with particular violence the poor and crowded population of the old part of the town. About the middle of August, it spread into every quarter, and a thousand persons died daily for several days. I hope and trust the parallel will not be carried out in regard to cholera in this country; but we need only read the reports of its progress in other countries, where predisposing causes abound, to show how terribly similar it has been in its ravages.

Secondly, as it appears all but certain that quarantine regulations will only delay the onset of the disease, the next step in prevention is to hinder the transmission of the poison from the sick to the healthy. Here chemistry comes into action: it appears certain that vapour in the atmosphere—or, in other words, a damp atmosphere,—facilitates this transmission, probably by holding the poison in solution: we know that this is so with other gaseous products. This being the case with the poison of cholera, not only will there be a more ready transmission through a damp atmosphere, but a larger quantity will enter the system at a given time, and in proportion to the quantity taken will be the poisonous effect. Cholera will, therefore, spread more rapidly—that is to say, a *greater* proportion of persons will be attacked in a *less* time, in a low damp locality than in a dry high situation. The means of prevention in this case is to dry the air by every possible means, or else that the damp locality be abandoned; the latter would certainly be the most efficacious, although seldom practicable. The bedding and clothes of the patients and attendants should be kept perfectly dry: dry heat should be used in every possible way, and all open vessels containing water removed altogether from the apartment. Effective draining should be carried out; stagnant pools filled up with some dry absorbent material, to prevent the transmission of the poison to a distant locality (which I believe may be done by packing up some damp clothes fresh from a cholera patient, in a well-fitting box, and transmitting them per rail or otherwise); all articles of clothing should be exposed to as high a temperature as they will bear in a dry atmosphere; a blast of hot dry air upon clothing of this kind will, I have reason to think, effectually destroy the poison.

You may also dilute the poisonous atmosphere by frequently changing it—that is to say, you must *ventilate* well. If you can ventilate with dry air, it will be better, but you had better use damp air freely, rather than shut up the poisonous atmosphere. You should prevent many persons being near a patient, or even crowding their apartments, for they not only abstract oxygen from the atmosphere, and displace a certain proportion of it, but they load it with vapour derived from their lungs. When crowded religious services are held during a time of pestilence, they are always followed by an increase in the number of sufferers. partly from this circumstance, and partly from the fact that persons take the poison with them in their clothing, or in their blood. People predisposed to the disease should, therefore, avoid all public meetings.

As to the use of disinfectants I cannot speak confidently, but where they can be used with safety, use them; they will do no harm, and may do good by giving confidence and courage to attendants, and by destroying the poison in part, perhaps. The dead bodies, at least, might be disinfected. After you have done your best for preventing the transmission of the poison from the diseased to the healthy, you will seldom succeed. All persons coming in contact with a cholera patient *must* receive more or less of the poison, and you must diligently endeavour to prevent another condition necessary to contagion—namely, its morbid action in the blood of the person receiving it. I need hardly tell you, gentlemen, in express terms, that millions of persons receive one febrile poison or other into their blood, which never developes its effects. Every practitioner who attends cases of small-pox or scarlatina, or exanthematous typhus, or rubeola, or pertussis, must necessarily do this at every visit, and they are almost as often exempt from disease. And so with cholera. Surgeons have lived night and day in cholera hospitals: nay, wearied and worn-out, they have fallen forward in deep sleep upon the bed of their patient, and on waking found they had a cholera corpse for their pillow. But is this a reason for declaring cholera a non-contagious disease? If you were to commit the great logical mistake of admitting the deduction, then every other contagious fever must be declared non-contagious by you on the same grounds. Thus the plague which ravaged Marseilles in 1720, to which I have already referred, cannot have been contagious; for not one medical practitioner was attacked, and the bishop is described as going to the sick and dying stretched on straw in the open streets, or visiting the infected in the most miserable dwellings, striding over multitudinous corpses, and confessing the sufferers, not only without fear, but with perfect calmness and safety. So, also, the Archbishop of Milan acted when a petechial fever devastated that city; yet neither prelate ever contracted the disease. A person who had already had exanthematous typhus or variola might make the corpse of a person dying of either disease his pillow with perfect impunity; but would you therefore say that neither disease is contagious? No; your answer would be, that person had not the conditions necessary to the morbid action of the poison.

After the reception of a febrile poison into the blood, a certain period elapses before it renders its presence manifest: this is termed the *latent period.* Writers have fixed the latent period of cholera variously at from eight to three days. Now it is obvious that something prevents the poison from acting immediately, or else something occurs to excite it into action,—the poison itself lying dormant until that excitation takes place. It is just possible (I don't say probable, but possible) that the latent period may be prolonged for weeks or months. The real fact in the majority of cases probably is, that, if it do not act on the blood in accordance with its nature in eight or ten days, it is eliminated quietly through some of the excretory outlets, probably through the mucous surface of the intestinal canal, and perhaps it just excites a little diarrhœa, and no more.

What principle of prevention do we draw from these views? This—that the excretion of the poison must be facilitated.

Now, unfortunately, while there has been such discussion as to the contagiousness or non-contagiousness of the disease, and the anti-contagionists generally have all along acknowledged that the disease is excited by a poison, the principle of preventing the disease, by eliminating the poison, has had no attention. But here the two parties are on common ground, the poison being in the blood according to both. How are we to get it out? or, if it will stay, how prevent its action?

I apprehend persons in perfectly good health, and using ordinary care in keeping so, will always excrete the poison and never have cholera: Nature is quite sufficient, under these circumstances, to take care of herself. I apprehend, too, that persons only in moderate health, who attend to the ordinary rules of hygiene, will excrete the poison with very little constitutional disturbance—having, perhaps, a slight febrile attack ending in perspiration, or slight diarrhœa. These have the cholera, and may *communicate it*, too, totally unaware of the fact. Now, of course, popularly speaking, diarrhœa is not cholera; but, technically speaking, it is quite as much an effect of the poison as the more violent symptoms; just as mercurial erethism is quite as much a symptom of poisoning by mercury as ptyalism or diarrhœa. And here let me advise you not hastily to conclude that the ordinary symptoms of cholera are the *only* symptoms produced by the poison: it may, and I believe does, produce symptoms altogether different from its commoner effects; and this is the case with all poisons whatever. The poison of erysipelas, for example, will excite puerperal fever. You may have measles without catarrh—scarlatina without a rash; and this leads me to remark how necessary it is to use the greatest caution in your conclusions as to the symptoms produced by febrific poisons, and always remember that *one-half, at the least, of their natural history is entirely unknown.*

If, then, when the cholera is epidemic, you have a patient with slight diarrhœa, but especially with rice-water stools, act as if the enemy were upon him. Now I don't think you should *instantly* check the diarrhœa, for I suspect it is an effort of nature to carry off the poison—not the diarrhœa, but that the poison is passing out by the intestinal canal, and irritating it as it passes. Moderate the irritation by gentle opiates; set up other excretions, as by the skin and kidneys; give your patient plenty of demulcent drinks, and of free pure air; charge him, as he values his life, not to irritate the gastro-intestinal mucous membrane, and, as an antidote to the poison in the blood, give a few doses of quinine, or the vegetable acids. The best formula perhaps would be, a grain or two of amorphous quinine with two or three grains of tartaric acid and a few minims of laudanum every six hours.

But suppose your patient have already disorder of the excretory organs, so that the blood is not depurated in the ordinary course of events, you have then a dangerous state of things, and one which will demand all your skill, *if* the greatest can be of any avail. If your patient have chronic disease of the intestinal mucous membrane, or of any of the principal viscera, but especially of the liver or kidneys, his exposure to the poison will most probably be followed by a violent if not fatal attack. You must therefore warn him to adopt all possible means of avoiding contagion. Patients with chronic disease of the liver and intestinal mucous membrane, and especially with Bright's disease of the kidneys—drunkards belong to this class—will suffer far more than any other class; and I am inclined to think few such receiving the poison will recover.

The exemption of persons engaged in chandleries and tanneries from the disease, points out their atmosphere as being prophylactic,—why, I cannot say. Persons highly predisposed, from the causes stated, might avail themselves of this hint. I am assured that the emanations from tallow are obnoxious to insect life, and therefore they have some virtue or activity as yet unknown to us, and are widely different in their nature from mere putrid emanations.

Now you may have all the functions going on with tolerable regularity, or at least without any marked irregularity, further than the sort of ill health which deficient diet, defective supply of atmospheric air, and the presence of malarious poisons, may excite, and yet such person be highly predisposed to disease. Any thing which lowers the tone of the system will give the poison activity: thus a great number of persons may have already received the poison into the blood, and it remains latent until the depression which precedes a heavy thunder-storm, or a fatiguing journey—as a march of troops, or the want of a meal, or excess in a meal after a long fast, will at once develop the morbid action of the poison. Those examples in which a number of persons have been exposed to the poison at the same time, and then to such an exciting cause as the preceding at the same time, have presented great difficulties to a sufficient explanation, and have been called "nuts for contagionists" to crack; but you will, I think, find no difficulty in them whatever, if you have a clear comprehension of the whole subject.

The miasmata given off from feculent *debris*, as from privies or accumulations in the sewers, act as a poison, as I have previously shewn, on the intestinal mucous membrane; and, consequently, persons breathing air impregnated with such emanations are peculiarly liable to be rapidly affected by the poison of cholera. The reception of the latter is but the application of the match to a train already laid. I need not, I think, observe, that the removal of feculent accumulations, and of animal and vegetable debris, is an important point in prevention.

All the depressing emotions enable the poison, when received into the blood, to conquer the reaction of the organism against it, and to overcome the *vis conservatrix*. You will hear of people taking fright at the cholera hearse, or something of the kind—hardly suffering from diarrhœa, perhaps—and go home, lie down, and die in all the agonies of the disease. Now such persons, if they had not had their vital powers so depressed by terror, would have resisted the action of the poison; for rest assured, gentlemen, that when a person dies of Asiatic cholera, he *must* have received a specific poison into his blood, however difficult it may be to account for the communication or reception of it. You might as reasonably say, that a person with small-pox had never received the contagion of small-pox.

What are the circumstances that lead to the decline of the epidemic? In the first place, all persons who have had an attack do not seem *immediately* liable to a second: then the highly predisposed have either died or had it; so that, like a fire, it dies out for want of fuel; or, thirdly, an atmospheric change may conjoin with the preceding, and the air becoming very cold and dry, puts a stop to the development of predisposing miasmata, and the more ready transmission of the poison. It is in this way all epidemics whatever come to a close, whether arising from miasm or contagion.

The grand object, then, in the prevention of cholera, is to remove as many of the predisposing causes as you can. Many of these are entirely within the power of man—indeed, all the most important: I mean those emanations which arise from over-crowding or decaying debris, &c. With regard to cachectic and visceral disease, you can do little.

And now let me strongly advise you to study cholera as a fever belonging to the contagious class; seek out its analogies, and scrutinize it in relation to them: if you do this, the difficulties which arise in explaining the propagation and course of cholera will be found to be common to other contagious fevers, and that, with a careful attention to the analogies, many of these difficulties will disappear with reference to the whole group.

Original Communications.

CASES OF PNEUMONIA, VARIOUSLY TREATED;

WITH BRIEF OBSERVATIONS.

Read at the South London Medical Society, Oct. 12th, 1848.

BY H. M. HUGHES, M.D.
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IN a paper published a few years since in the Guy's Hospital Reports, "On Pneumonia," I made the following observations on the treatment of the complaint:—"To assert that any one mode of treatment should be adopted in pneumonia, is, I think, open to grave objections. To say that venesection, twice or thrice repeated, or that antimony, or calomel and opium, should always be the remedy employed, appears to me to be as unphilosophical in theory, as, if always regarded as a rule of action, it would be dangerous in practice. If, indeed, the disease always existed in persons of the same natural power,—of the same habits, mode of life, country, and locality,—if it was always presented to the notice of the physician in the same stage,—if it was always uncomplicated, or had the same complication,—if it always occurred in the same 'epidemic constitution,'—if, in fact, the 'cæteris paribus' were always truly applicable to the disorder,—then, indeed, one system of treatment might be adopted, not only without danger, but with advantage; and tables showing the amount of cures and of deaths from one or another mode might be safely trusted as guides to practice. But as the truth is exactly the reverse of all this; as pneumonia occurs in persons of all ages and all constitutions, and is seen for the first time in all stages, and with great variety of complications, each case should be more or less studied by itself, and the effects of remedial agents, as represented by tables, should, I think, only be published with cautious limitations and explanations, and be viewed as rules of practice only after a careful consideration of the attendant circumstances of each individual case." To treat all cases of pneumonia homœopathically, or by poultices, or "decoctum graminis," appears to myself not less wise, and to a well-informed physician, I would say, not less justifiable, than the determination to adopt a more vigorous system of bleeding, because a French experimentalist, in an equal number of persons, affected with slight pneumonia, found that those who were bled attained to convalescence a few days earlier than those who were not submitted to the operation of venesection. Excepting when all the attendant circumstances are similar (a coincidence which rarely occurs), or in the case of specific remedies, and, perhaps, in some epidemic complaints, I believe that the "methode numerique" is not only not fairly applicable, but, if applied at all, is likely, in a majority of cases, to be injuriously applied to the *treatment* of disease. With all deference to great talent displayed by the philosophic school of medicine, and to the theories of "young physic," I still think that experience, in the common acceptation of the term, is something, and is not to be discarded; and that ordinary observation should not be thrown aside in the practice of our profession; that judgment as well as reasoning should be exercised in the treatment of disease; that, as the phases and attendant circumstances of the same affections are constantly varying, so the treatment should vary also; and therefore that it is only as an exception that the results of remedies can be fairly estimated by the "methode numerique," or that the genuine effects of treatment can be properly judged after the manner of an addition sum. It is with the view of illustrating this statement by exhibiting the successful treatment of the same disease in different forms, and occurring in persons of different constitution, by methods not only different from, but in some respeets opposite to, each other, that I beg to submit to the notice of the Society the following series of cases of pneumonia, which has fallen under my care during the last year.

CASE I.—*Simple pneumonia—treated with calomel, antimony, opium, and cupping.*

J. W., aged 37, admitted into Guy's Hospital under my care, June 23d, 1847. He was a common daily labourer, and had been ill for seven days, as it was supposed, from fever; for which, in fact, he was admitted. Upon examining his chest, however, it was found that he had great dulness of the right side, as high up as the base of the scapula, and that the breathing was tubular, and the voice bronchophonic in the same parts; while in the upper part of the same lung the respiration was mixed with crepitating and mucous rattles. His skin was hot, and pungent; his tongue loaded, white, and moist; he complained of pain in the right side, but had very little cough, and but scanty, mucous, white, and tenacious expectoration. His bowels were confined; his pulse frequent, but small; he had taken no medicine. Ordered—Hydrarg. c. Cretâ, gr. iv. st. Ol. Ricini, ʒvj.; post. hor. vj.; C. C. ad. ℥vj. parti. dolent.; Hydrarg. Chlorid. gr. j.; Pulv. Antim. gr. iv.; Pulv. Ipecac. co. gr. ij.; 4ta quaque hor. c. Julep. Ammon. Acetat.

24th.—Much the same. Tongue more dry. He complained now of pain in the right side, over the region of the liver, and in this part nearly pure crepitating rattle was now distinctly audible.—Rep. Cucurb. cruent. ad ℥vj. parti dolent.; Pil. Antim. Opiat. c. Hydrarg. Chlorid. gr. iss. 4ta quaque hor. c. J. Ammon. Acetat.

25th.—He was much better; the skin was less hot, and was now moist; the tongue was moist, and the bowels relaxed; the posterior part of the lung was becoming permeable to air, as the respiration was more audible.—Rep. Pilul. 6ta quaque hor. Intermittatr. Mistur.

26th.—Bowels much relaxed; skin soft and moist; the pulse less frequent, and more expanded. Crepitation was now distinct at the lower part of the right side.—Rep. Pil. nocte maneque; Mistur. Cretæ, ʒiss. 6ta quaque hora sumend; Enema Amyli. c. Tr. Opii, ♏xx. statim et vespere injiciend.

28th.—Bowels still relaxed; chest affection almost gone, a little mucous rattle alone remaining.—Rep. Mistur. Pulv. Ipecac. C. gr. v. quaque nocte sumend.

From this time he had no complaint. The lung was gradually, but quickly, restored to its normal condition, and the patient was discharged "well" two weeks after his admission.

This case presents no peculiarity, unless that it was admitted as a case of fever, and was discovered to be pneumonia almost entirely by the physical signs, to which, however, attention was necessarily directed by the local pain.

CASE II.—*Pneumonia of the apex, simulating simple fever in its general features, and phthisis as to its physical signs.—Treated with antimony.*

D. M'C., aged 12, an Irish lad, was admitted into the hospital, under my care, June 23d, 1847. He had been ill for three days, and had taken no medicine. He was at first supposed to be labouring under fever, with bowel irritation, which was at that time very rife in the hospital, and was ordered Mistur. Cretæ, ʒiss. 6tis horis. Before the visit of the next day (thanks to the assiduity and intelligence of my clerk, Mr. Stedman) it was discovered that he had great dulness of the upper part of the right lung, nearly as low down as the nipple. Tubular breathing also, and bronchophony, existed before and behind, and, over the upper part of the scapula, and in the acromial region, as distinct gurgling, pectoriloquism, and tubular breathing, as I almost ever heard. He complained of no pain, and had no cough and no expectoration. The local signs were clearly those which ordinarily accompany advanced phthisis; but as it was confidently asserted that he was quite well five days before his admission, as he had none of the general symptoms of phthisis, and as he had many of the constitutional symptoms of pneumonia —viz. intense force, with a flushed face, a pungently hot skin, a congested conjunctiva, a loaded and dry tongue, and an accelerated and tense pulse,—it was presumed that he was suffering from a moderately advanced stage of acute pneumonia of the apex of the lung, and he was treated accordingly; though with some suspicion that the local pneumonia might be at any rate connected with tubercles. Ordered — Hirudines v. infra claviculam dextr. applicand. ℞ Antim. Potassio-tart. gr. ss.; Tr. Opii, ♏iss.; Aq. Font. ℥ss. 4ta quaque hora sumend.

25th.—Medicine excited nausea, but produced no vomiting. General symptoms and physical signs little changed. —Pergat.

26th.—He was in every respect better. He perspired freely; the tongue was more moist; he had no diarrhœa, and still complained of no cough; the local signs also were much less strongly marked; the gurgling and pectoriloquism had disappeared, and the tubular breathing was less decided; air, indeed, entered, though imperfectly, into the pulmonary tissue, and induced muco-crepitating rattle. — Rep. Mistur. 6tis horis.

From this time he rapidly improved, and on the 29th he took only half the dose of antimony first prescribed. The progress of the retiring pneumonia was distinctly marked by the gradual disappearance of the local signs: his constitutional symptoms ceased on the fourth day after his admission, and he was discharged in a fortnight without any indication of disease, either local or general. No rhonchus, not any harshness of respiration even, could be heard in any part of the lung.

This case is, I think, interesting, not to say important, in many particulars. In the first instance the lad was admitted for common continued fever; and it was only by the physical signs that the disease of the lung was discovered. It was not indicated either by cough, expectoration, pain, or dyspnœa. Fever was rife at the period, and he might have easily been passed (as, indeed, in the first instance he was passed) as an example of the disease endemic at the time. The next circumstance worthy of notice in the case was the exact similarity—yes, after some little experience in these matters, I repeat, the exact similarity of the physical signs which existed, to those present in advanced phthisis. Tubular breathing, gurgling, and pectoriloquism, with local dulness on percussion, all at the apex of the lung, and there alone, were so distinct that had we trusted, as some experienced auscultators are sometimes falsely charged with trusting, alone to physical signs, a serious error in diagnosis would have been committed. The history of the ailment, and the constitutional symptoms, were quite opposed to the probability of the existence of advanced phthisis. The treatment was directed accordingly; but it may be acknowledged that it was not adopted without some slight misgivings, or continued without anxious watching; so very characteristic appeared the physical signs of old and advanced disease. The third circumstance worthy of regard is the exceedingly beneficial action of the antimony, which, with the exception of the application of five leeches, was in fact the only medicine employed for the cure of the complaint. Half a grain of tartar emetic every four hours excited no vomiting, but produced the desirable nausea, in a lad only twelve years of age, and obviously resolved the complaint in the space of about forty-eight hours. The case was a most instructive one both to physician, and pupil.

Case III.—*Simple pneumonia, treated with antimony.*

Wm. W., aged 34, admitted into the hospital, under my care, for fever, July 7th, 1847. He had been ill for five days, and had suffered from pain in the side and cough, but had taken little or no medicine. His skin was pungently hot; his tongue loaded, white, and moist; and his pulse frequent (96 in the minute). The cough was not frequent, but the expectoration, though not copious, nor remarkably viscid, was of a rust colour. Marked dulness on percussion existed on the left side, posteriorly, as high as the scapula, together with tubular breathing, mixed with some muco-crepitating rattle and bronchophony. Ordered—C. C. parti dolent. ad ℥vj. Antim. Potassio-tart. gr. j.; Tr. Opii, ♏iij.; Aq. Fontan. ℥j. 4ta quaque hora.

8th.—No vomiting, and no obvious change.

9th.—Medicine excited vomiting; but the skin was now cool and moist, and the pulse 84.—Rep. Mistur. ter die.

10th.—He had had no vomiting; the skin was quite cool, and the pulse 70; his cough was frequent; and muco-crepitant and mucous rattles were still obvious in, though the dulness on percussion had entirely disappeared from the part affected.—Allowed beef-tea. From this time he had no remains of pneumonic symptoms, but continued to cough a good deal. He was consequently ordered a mixture with extract of conium and twenty minims of ipecacuanha wine, thrice daily; and on the 15th, a blister for a slight pleuritic pain. He was afterwards kept in the hospital only that "he might regain his strength," which he fancied was not restored till August 2d, a month after his admission.

The only circumstance worthy of remark in this case was the exceedingly beneficial action of the antimony.

Case IV.—*Pneumonia complicating fever.* (?)

J. C., aged 12, an Irish girl, who was reported to have been ill for two weeks (though in what mode could not be satisfactorily ascertained), was admitted into the hospital, under my care, July 7th, 1847. She appeared to have been greatly neglected, as she was filthily dirty, and so overrun with vermin, that, even after her hair had been removed, she could not be efficiently examined till the next day, after she had been thoroughly washed. As, however, the bowels were reported to be relaxed, the skin was hot and dry, and the tongue dry and coated, she was presumed to be suffering from fever, with bowel complication, and was ordered simply the Mist. Cretæ, 6tis horis, vel pro re nata, till the next visit. The next day she was found with a pungently hot skin, a dry and loaded tongue, a frequent and feeble pulse, the expression of countenance languid and sunken, and the lower and posterior part of the left side dull on percussion; the breathing at this part tubular, with shrill muco-crepitating rattles, and the voice bronchophonic. She had very little cough, and scarcely any expectoration. Ordered—Emplastr. Cantharid. lateri sinistro; Julep. Ammon. Acet; Inf. Serpentariæ, aa. ℥ss., 6ta quaque hor.; Pulv. Ipecac. c. gr. iss.; Pulv. Antim. (Jacob.), gr. iij.; Hydrarg. Chlorid. gr. j. ft. Pulv. nocte sumend. Beef tea and arrow root.

9th.—Bowels not open. No other change. Capt. Olei Ricini, ℥ss. Rep. Mist. et Pulv. When the blister allowed of the re-examination of the chest, after two or three days' continuance of the same means, during which her general symptoms were little changed, the lung was found to be much more premeable by air. At this time a free perspiration suffused the skin, and the general symptoms abated. But now the cough became more frequent and troublesome, and bronchitis (probably congestive) appeared in the posterior part of the other lung, though without any increased fever. A blister, and some conium mixture, were for this prescribed with benefit. In a few days she was up, and free from complaint, and wishing to return home. But recollecting her neglected condition on her admission, and regarding her present debility, I thought it right to detain her till the 28th, three weeks after her admission.

This case was probably, though I think by no means certainly, one of fever complicated with pneumonia; but the child had been so grossly neglected, that the origin and progress of the case could not be ascertained, and the nature of the case could only be conjectured from the actual condition in which we found her.

Case V.—*Pneumonia of the right side, with influenza, followed by extensive and acute pleurisy, with effusion of the left side, and pericarditis.*

At 12 P.M., of Friday, December 3d, I was requested, by Mr. Ray, of Dulwich, to visit, with him, a lady in the Camberwell New Road. She was about 38 years of age, married, and the mother of one girl, of about 8 years. Though a somewhat delicate person, she had been tolerably well till three or four days before, from which time she had suffered from the ordinary symptoms of influenza, which was then common. For twenty-four hours she had suffered from pain in the right side, and Mr. Ray had suspected, and been anxiously looking for, the ordinary signs of pleuritis, and had discreetly treated her with the application of a blister and the administration of calomel, antimony and opium, with salines. At my visit she still complained of pain in the right side: her breathing was frequent and painful; her tongue furred and moist, and her pulse frequent, feeble, and unequal. The right side of the chest, as high as the mamma anteriorly, and over its entire extent posteriorly, was dull on percussion; the voice in the affected part was resonant, and the breathing approaching to bronchial, but, upon deep inspiration and coughing, accompanied with muco-crepitating rattle. The apex anteriorly, and the anterior margin of the lung, afforded puerile respiration. The left lung and pleura, and the heart, appeared healthy. The bowels were open. I recommended another blister, a continuation of the calomel and opium, without the antimony, and some infusion of serpentary to be added to her mixture. The next day (Saturday) she was certainly somewhat better, and the air entered the affected lung more freely. A continuance of the remedies was advised, together with good, mild, nutritious diet. The following day, Sunday, she was not nearly so well: the right lung was not so permeable, and she had more dyspnœa. Mr. Ray thought he discovered some rubbing of the serous surfaces on the anterior of the chest, over the region of the heart; and there now existed obvious dulness, with tubular breathing, over the base of the left side, posteriorly: her powers were more prostrated, and her general distress greater. A blister to the left side was now recommended. The pills were continued, and the mixture repeated, with a few grains of carbonate of ammonia.

At 11 o'clock the same evening, a colleague saw this lady, and in consequence of the great distress of breathing, and the severe pain in the left side, ordered her to be cupped. This afforded her considerable temporary relief; but in a few hours Mr. Ray was called to her again, when her suffering was as great as before. She was again cupped, though the blood removed was to a small amount, and afforded no relief. At 11 o'clock the next morning, I was again summoned to her bed-side, but she was then evidently sinking, and she expired early the same evening.

Inspectio cadaveris, 28 *hours after death.*—The chest only was examined. The right pleura was generally adherent, and the whole right lung, with the exception of the apex and the anterior edge, was soft and pultaceous, of a dull brick-dust colour, and nearly airless. The left pleura contained a small quantity of serum, and a very large amount of semi-solid plastic lymph, resembling clarified butter, by which the otherwise unaffected lung was greatly compressed, and consequently rendered firm and but slightly crepitant. The heart was soft, small, and feeble. The pericardium contained a little viscid serum, with a few flakes of lymph, and had a little fibrine on the surface.

It would perhaps be unwise to speculate upon the probable termination of this lady's original local disease, (the pneumonia of the right lung,) if she had not been attacked with extensive and acute secondary pleuritis and pericarditis. My own impression, however, is, that by supporting her power, and by the administration of very mild remedies, it is highly probable that she would have recovered.

[To be continued.]

ON THE EXISTENCE OF OZONE IN THE ATMOSPHERE. BY DR. MOFFAT.

PROF. SCHÖNBEIN has stated the peculiar substance to which he has given the name of *Ozone*, is to be detected in varying proportions in the atmosphere,—in which it is to be discovered by a mixture of iodide of potassium and starch. Slips of paper are smeared with the following composition—a drachm of common starch is mixed with an ounce of boiling water, and the solution boiled until it is of the consistency of that used in the laundry,—then twelve grains of iodide of potassium are to be added, and the whole well mixed together. The presence of ozone is indicated by the decomposition of the potassium salt, and the formation of a blue iodide of starch. Dr. Moffat, from the results which he has obtained (and a great number of specimens, showing the changes produced on the iodide of potassium, were exhibited), comes to the conclusion, that the presence of ozone in large quantities in the atmosphere, is invariably attended with catarrh and mucous diarrhœa. —*British Association, Athenæum report.*

ON THE
CONFIGURATION OF THE CHEST,
AND THE GENERAL ASPECT IN VESICULAR EMPHYSEMA.

By Francis Sibson.

1. *The description, by Dr. Stokes, of the physiognomy and general configuration, in cases of vesicular emphysema, corresponding with the Daguerreotypes which accompany the paper.*
2. *Varieties in the external configuration of the chest, according to age*—3. *Description of the aspect and external configuration in Rawson (see the 1st engraving), a boy affected with emphysema and bronchitis. The face full and of a purplish red. The chest full, rounded and prominent above, anteriorly, and below, posteriorly; the chief prominence of the sternum a little above its lower end; the lower ribs and cartilages unusually flattened and hollow*—4. *Description of the external configuration in Shaw (see the 2nd engraving), a man affected with emphysema. The face arid and dusky, the features furrowed and corrugated; the chief prominence of the sternum at the articulation of its first and second bones; the lower two-thirds of the sternum depressed; the xyphoid cartilages and the abdomen below it, hollow, between the 7th costal cartilages, those cartilages forming an obtuse angle below the sternum*—5. *In the emphysema of advanced life, the sternum most prominent at the lower end; the chest at its upper part barrel-like; the dorsal and cervical spine very much curved, and the head much lowered*—6. *The height always diminished in emphysema*—7. *Partial emphysema*—8. *Great diagnostic value of the signs furnished by the configuration of the chest in emphysema and other chest diseases*—9. *Comparison of the configuration of the chest in emphysema with that in health and in other chest diseases.*

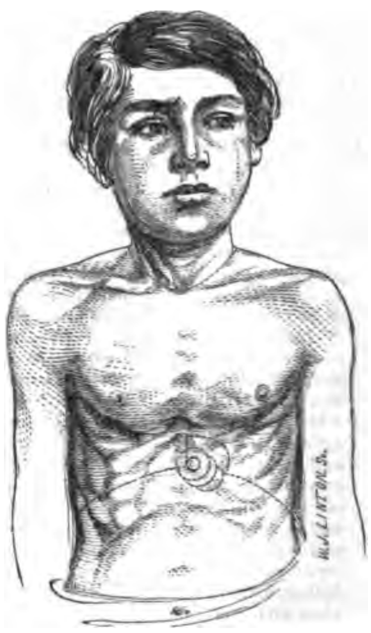
The former paper on Vesicular Emphysema (Med. Gaz., Sept 8), shewed that, in that disease, and in a less marked degree in bronchitis, the lungs are permanently enlarged, the heart is generally increased in size, its right cavities being dilated and hypertrophied. The diaphragm is remarkably flattened and lowered, and the liver and stomach, and indeed all the abdominal viscera, are displaced downwards. In the present paper, the aspect of the patient and the configuration of the chest in vesicular emphysema, will be considered.

The accompanying engravings were traced from Daguerreotypes, and accurately drawn by Mr. Linton from these, and from a view of the patients themselves. The engraving of Rawson illustrates the characteristic form of the chest in the boy; and that of Shaw in the adult, in well-marked cases of emphysema and bronchitis. They correspond in many respects with the following admirable description by Dr. Stokes, of the physiognomy and general configuration in cases of vesicular emphysema.

"The physiognomy of these individuals is almost characteristic. The complexion is generally of a dusky hue, and the countenance, though with an anxious and melancholy expression, has in several cases a degree of fulness which contrasts remarkably with the condition of the rest of the body. It is probable that this results from hypertrophy of the cellular membrane and respiratory muscles of the face; the first produced by repetitions of venous obstructions, and the second by the violent exertion of the whole system of respiratory muscles. The nostrils are dilated, thickened, and vascular. The lower lip is enlarged, and its mucous membrane everted and livid, giving a peculiar expression of anxiety, melancholy, and disease, to the countenance. The shoulders are elevated and brought forward, and the patient stoops habitually, a habit contracted in his various fits of orthopnœa, and cough, and the relief which is experienced from inclining the body forwards. Thus even in bed we often find these patients sitting up, with their arms folded, and resting on their knees, and the head bent forwards, the object of which seems to be to relax the abdominal muscles, and to substitute the mechanical support of the arms for that of muscles which would interfere with respiration. To such a degree does this habit of stooping alter the conformation of the chest, that I have seen several cases in which the acromial, interscapular, supra, and subspinous surfaces, had become nearly horizontal. Under these circumstances, the apices of the scapula are remarkably projected; anteriorly we observe the clavicles arched and prominent, and the triangular spaces which answer to the insertion of the sterno-mastoid and scaleni muscles, are singularly deep. The cellular membrane and adipose tissue of the neck seem to be absorbed; but the muscles of inspiration, and particularly the sterno-mastoid and scaleni, are hypertrophied, and the thyroid cartilage is generally prominent and hard, so as to feel as if ossified. When we examine the chest, we discover other and remarkable changes; the sternum has lost its flatness or its relative concavity, but is thrown forward and arched both in a longitudinal and transverse direction; the intercostal spaces are widened, but not dilated as in empyema; on the supero-anterior portion, indeed, the chest seems smooth and convex, but this is owing to the hypertrophied state of the pectoral muscles, a condition induced by the long-continued difficulty of respiration. When we examine the side, however, we find the intercostal spaces deeply marked, and presenting no indication of protrusion; so that if we compare the diseases of dilatation of the cell and empyema, with respect to the external conformation of the chest, we find that in the first the appearance of smoothness and dilatation is most evident superiorly, while in the latter the reverse occurs. The lateral portions of the chest are remarkably deep, and their convexity not at all proportioned to that of the anterior or posterior portions of the thorax. On applying the hand to the inferior sternal region, we generally find that the heart is pulsating with a violence that we would not expect from the examination of the pulse at the wrist, which is often small and feeble, while impulses of the right ventricle are given with great strength." (Stokes on Diseases of the Chest, pp. 176-8.)

2. In all cases of vesicular emphysema the chest is enlarged, but I find that the configuration of the chest in such cases differs at different ages.

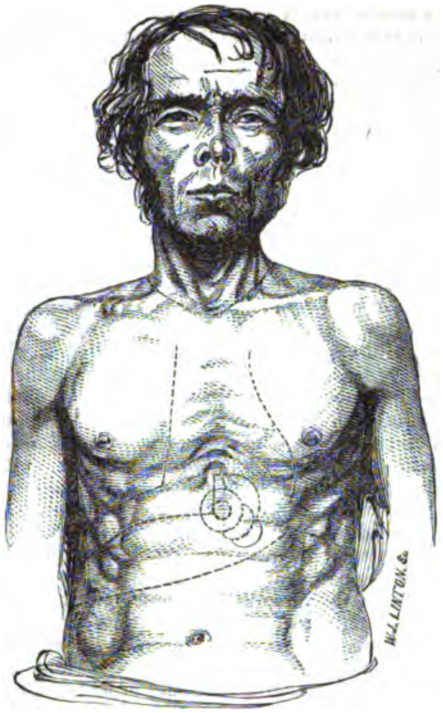
3. In boyhood, as in Rawson, owing to the flexibility of the costal cartilages, and the yielding nature of the sternum, the conformation of the chest is not modified by emphysema in the same manner that it is in the adult: William Rawson, a boy of 13 years of age, from whom the first of the accompanying Daguerreotypes was taken, and who has been long affected with bronchitis, and no doubt also with emphysema, is a type of the physiognomy and the configuration of the chest in such cases. While the lower eyelids are somewhat sunken, and of a purple hue, the cheeks and lips are very full, and of a reddish purple. The nostrils are dilated, the lips just asunder.



Wm. Rawson, æt. 13, affected with bronchitis and emphysema.

The dotted lines indicate the outlines of the organs. The concentric lines, the position of the heart's impulse.

The whole of the upper part of the chest above the fifth rib is remarkably full, rounded, and prominent—the ribs, cartilages, and sternum, being manifestly raised forwards and upwards. Although the shoulders are raised, the clavicles, instead of descending obliquely and slightly forwards, as in health, project almost directly forwards from the scapula to the sternum. The sternum is arched; it is prominent at the upper end, and becomes more and more prominent from above downwards, so that about an inch above the xyphoid cartilage it projects considerably. It there, as is well shewn in the drawing, falls suddenly backwards, so that the xyphoid cartilage lies in a hollow. The five superior ribs, which



Wm. Shaw, æt. 30, affected with emphysema and bronchitis.

comprise the thoracic set, project forwards each more and more from above downwards. Immediately below the projection of the fifth ribs and cartilages, there is a deep depression, and the inferior ribs, and their cartilages from the sixth to the tenth, instead of being prominent and rounded, are usually flattened and hollow, the cartilages apparently yielding inwards at their junction to the ribs.

The sternum is so much more prominent than the three superior ribs and the clavicles, that the chest is there almost boat-shaped; but the fourth and fifth costal cartilages, especially the right, are somewhat more prominent than the sternum: indeed, the prominence of the chest seems to gather into two foci a little below and within the nipples. The abdomen below and between the seventh costal cartilages is rounded and rather full; the space between those cartilages below the sternum is not increased. The xyphoid cartilage and the linea alba just below it form a hollow. The recti muscles being constantly somewhat tense, depressions are formed between and on each side of them. The neck is unusually short and deep:—the shortening and deepening of the neck is due to two causes. First, the elevation upwards and forwards of the scapulæ, clavicles, sternum, and ribs, especially the sternum; the muscles in the neck effecting these movements, the sterno-mastoid, scaleni, and trapezius, being unusually well developed. Second, the increased curvature of the arch formed by the dorsal and cervical vertebræ. The whole dorsum is rounded and full, but the chief fulness, instead of being, as it is in front, at the upper part, is at the lower part of the dorsum: this is in keeping with the position of the bulk of the lungs, which in front occupies the upper, and behind, the lower part of the chest. The arch is shortened, the cervical vertebræ bend forward, and the head is consequently lowered and thrown forward, and the neck shortened. The origin of the sterno-mastoid and the scaleni are almost directly over their insertion, and better purchase being thus given for the action of those muscles in drawing upwards and forwards the sternum and the superior ribs. The sterno-mastoid and scaleni, while they raise the sternum and ribs acting from above, react from below to draw forwards and downwards the vertebræ and the head. The portion of lung above the clavicle is comparatively small: this is far from being due to diminution of the apex of the lung—which is of course more voluminous from the disease—but is owing to the remarkable elevation of the sternum in front, and the lowering of the first dorsal vertebra behind. The obliquity of the first ribs, and, indeed, of all the ribs, is from the same cause materially diminished. The intercostal spaces below the fifth ribs are widened, while those above the fourth are narrowed. The narrowing of the superior or intercostal spaces is an additional reason to that given by Dr. Stokes—viz. the development of the pectoral muscles—for the smoothness and roundness of the upper part of the chest.

4. W. Shaw, aged 30, the subject of the second Daguerreotype, is a characteristic example of the alteration in the form of the chest which attends emphysema in the adult, in whom the costal cartilages are firm, and the sternum is consolidated into two bones.

In many respects, Shaw presents the same configuration as Rawson. The chest is voluminous, being full and rounded above the fifth rib. The neck is short: the shoulders and clavicles are square and high; the upper part of the sternum and the superior ribs are elevated upwards and forwards; only a small portion of the apices of the lungs is seated above the clavicles; the respiratory muscles of the neck are enlarged and prominent; the arch made by the dorsal and cervical vertebræ is much curved; the head is lowered and brought forward; the dorsum is rounded and full, especially over the lower region; the superior intercostal spaces are narrowed, while the inferior are widened; the obliquity of all the ribs is lessened; and the whole chest is deepened.

The physiognomy in Shaw differs materially from that in Rawson; the skin of the lower part of the face, instead of being full, pulpy, and coloured, is arid and dusky; the cheeks are sunk, furrowed, and drawn into lines; the eyelids are drawn and elongated; the eyebrows and forehead corrugated; the nostrils dilated to the full; the lips thick, yet compressed, and the mouth protruding; the eyes are expressive of a peculiar, dull, unsatisfied anxiety. The features seem to clasp the bones of the face by permanent muscular efforts.

There is a well-marked difference between Rawson and Shaw in the form of the sternum, and in the direction and form of the sixth and seventh costal cartilages, where they proceed downwards from the sternum on each side of the xyphoid cartilage. In Rawson the sternum is yielding; in Shaw it is consolidated into two bones, articulating by cartilage with each other at the junction of the second costal cartilages. In Rawson the sternum is arched throughout, but is markedly prominent an inch above the xyphoid cartilage, which is much depressed. In Shaw, the upper end of the sternum is prominent; the sternum projects considerably at the junction of the first and second bones, the former of which forms a projecting inclined plane, while the latter is perfectly vertical, or inclines somewhat backwards from its upper to its lower end, the xyphoid cartilage being considerably depressed. In Shaw, as in Rawson, the five superior ribs become gradually more prominent from above downwards, the projection in the latter being much greater than in the former. The sternum, which at its upper part is markedly more prominent than the first and second ribs, forms a depression below, between the marked prominences of the fourth, and especially the fifth ribs and cartilages. The sixth and seventh costal cartilages, which in Rawson are much depressed at their articulation with the sternum, are in Shaw but little less prominent than the fifth; consequently the lower end of the sternum and the xyphoid cartilage form a marked depression between those costal cartilages.

An important sign in emphysema in the adult is the enlarged space for the abdomen between the seventh costal cartilages, the angle formed between those cartilages below the sternum being unusually large.

In those cases of emphysema in the

adult in which the disease has originated in early youth, the form of the chest will retain those deviations from the normal configuration which it has acquired in youth.

5. The third variety in the form of the chest in emphysema exists in persons who are attacked by the disease in advanced life, when the bones of the sternum are consolidated into one piece; and, the cartilages being semi-ossified, each of them forms one unyielding piece with the rib.

The characteristic differences in such cases are the gradually-increased projection forwards of the sternum from its upper to its lower end,—the diffused barrel-like roundness of the whole chest above the sixth rib,—the want of the prominences of the fourth and fifth costal cartilages to each side of the sternum, that bone being usually on a level with those cartilages,—the great space for the abdomen formed between the opposite seventh costal cartilages, which form with each other an unusually obtuse angle below the sternum,—the unusual lateral bulging of the ninth aud tenth ribs,—and the unusual posterior curvature of the dorsal part of the spine, and inclination forward and lowering of the head and neck.

In some of these cases the front of the chest does not at first appear to be prominent, owing to the great backward prominence of the whole dorsum, and the forward position of the head and neck. In these cases the abdomen is usually full, but it is commonly hollow just below the prominent xyphoid cartilage.

I have met with one case of bronchitis and emphysema in a man, aged 33, in whom the sternum projected gradually forward to the lower end; and with two cases, between the ages of 50 and 60, in which the sternum became less prominent towards the lower end.

6. In all cases of emphysema and bronchitis the height is diminished, the body being shortened and the head and neck lowered. Shaw, who stood 5 feet and 1⅛ inch in May last, now (October) stands scarcely 5 feet and ⅞ inch, so that he has lost more than a quarter of an inch within the last five months. His extreme breathing capacity, which was 90 cubic inches in May, is now about 87.

In another case recently re-examined, the man's height, which is now 5 feet 8⅞, was, 30 years ago, 5 feet 9⅛: he is now 50 years of age. In the case of an old man, now in the hospital, the shortening is much more considerable, being 1 inch.

7. If only one lung is affected with emphysema, then the walls of the chest will be morbidly and characteristically prominent on that side only which is diseased. If a portion only of one or of each lung be diseased, then the thoracic walls will be excessively developed only over the seat of disease.

MM. Louis and Voilliez have each given an elaborate analysis of the varieties in the form of the chest which they have observed in different cases of emphysema.

8. It will be found that in vesicular emphysema and in bronchitis, as, indeed, in all other diseases of the chest, much valuable diagnostic information will be obtained by observing closely in what particulars the symmetry of the configuration of the chest is disturbed. Such information is nòt, of course, in any case sufficient of itself to enable one, without farther inquiry, to pronounce on the nature of the disease; but such information is almost always a guide, directing the attention to the nature and to the seat of the disease, and is always an important auxiliary to the other modes, or rather steps, employed in investigating disease, and arriving at a correct physical and rational diagnosis.

9. After having considered the modification in the form characteristic of vesicular emphysema, it will be well to give a short comparative statement of the more important points in which the configuration of the chest in health, and in several of the diseases of the chest, differs from its configuration in emphysema.

The form of the chest in health is distinguished from that in emphysema by this—that its symmetry is not altered by any excessive and partial development. The upper part of the chest, in form, is neither raised nor brought prominently forward: the neck is long, not short; the shoulders are sloping, not elevated; the clavicles are oblique, not square and forward, and elevated at their sternal end; the curve of the dorsal and cervical vertebræ is normal, not excessive; the dorsum is gently convex, not rounded and prominent, especially over its lower portion; the intercostal spaces are wide above and narrow below, not narrow above and wide below; the angle formed between the seventh costal cartilages, below the sternum, to each side of the xyphoid cartilage, is a right and not an obtuse angle.

The form of the chest in considerable narrowing of the larynx or trachea, with consequent obstruction to respiration, is distinguished from that in emphysema by its being narrow, flattened, and elongated, instead of being rounded, prominent, and deepened.

The form in phthisis is distinguished by the walls of the chest being flattened, instead of being prominent, over the seat of the disease.

The distinction in emphysema is fully and clearly stated above in the quotation from Dr. Stokes' work.

The form of the chest in extensive heart disease differs from that in emphysema in that the cartilages and ribs over the cardiac region are much more prominent than the corresponding cartilages and ribs on the right side, instead of being nearly equal to them, as they often are in emphysema.

In abdominal distension, the general configuration is exactly the reverse of that in emphysema: instead of the chest being full above and somewhat depressed below, and the abdomen being hollow just below the xyphoid cartilage, the abdomen is tense throughout, the lower end of the sternum, and the lower portion of the chest are full and prominent, and the upper part of the chest is flat and narrow.

USE OF CHLOROFORM IN THE TREATMENT OF OPHTHALMIA.

Chloroform is said to have been employed with great success by M. Uyteerhoeven, of Brussels, to relieve the severe pain of traumatic and strumous ophthalmia. He uses it as a local application, in the proportion of eight drops to an ounce of distilled water. MM. Busch and Cunier have likewise observed great advantage to ensue in such cases from its internal administration. They recommend a mucilaginous mixture containing from 8 to 16 drops of chloroform, to be given, by teaspoonfuls at a time, in the course of twenty-four hours. In eight cases of strumous ophthalmia, and in one case of neuralgic pain of the eye, the benefit derived from this plan of treatment was very remarkable.—*L'Union Médicale*, 1848. A

OBSERVATIONS ON THE

FUNCTIONAL AND ANATOMICAL ANALOGIES EXISTING

BETWEEN

THE EYE AND THE EAR.

By J. D. Macdonald, Esq.
King's College.

[Continued from p. 452.]

When the active motion of a sonorous body excites the passive vibration of surrounding substances, they are said to vibrate sympathetically. This sympathetic vibration may be of two kinds: the one where the tremors of a sounding body are communicated by the atmosphere or other means to an adjacent substance, in the particles of which a corresponding motion is excited; and the other, where sonorous bodies give out their own peculiar sound, when the vibrations of others are conducted to them in the manner just mentioned. The motion of the bellies of violins induced by the tremor of the strings, is an instance of the former class; and the excitement of one string on the harp by the vibration of another, would illustrate the latter. Here the string, sympathetically affected, sounds its own note, and not that of the string which thus excited it.

It is most probable that the membrana tympani (while it collects and transmits the sounds which subsequently impinge on the auditory nerve) may be sympathetically affected in both these ways: for in its passive state it is susceptible of the vibration of any note falling upon it within a certain sphere, but by its muscular adaptation it may commingle its own proper vibration with that of the sound affecting it, and thus augment the sonorous impression.

The following experiments and considerations clearly illustrate these remarks, and establish some essential points in the functional analogy between the eye and the ear.

In the first place, we shall compare the sound-board of the piano-forte with the membrana tympani; and in the second, draw an analogy between the latter membrane and the ordinary drum-head.

The sound-board of a piano-forte vibrates in exact accordance with any string sounding. In proof of this, if a small steel bar be placed upon it, and a string be struck, a stramming sound will be produced in perfect unison with that of the string, and this without reference to the size of the bar. Still further; the same particles of the sound-board are susceptible of the vibrations of two or more notes at the same time, for when a chord is struck, as C E G, each individual note may be recognised by the percussion of the bar upon the sound-board. This experiment shows how the membrana tympani may, at the same degree of tension, transmit to the internal ear many different sounds, either simultaneously, as in a harmonious chord, or in succession, as in a melody. But, as in the case of the sound-board, the bar answers better in some situations than in others, according to the pitch of the note, the inference is, that all its parts are not alike susceptible of the same vibration (but this we shall presently see more fully illustrated in the drum-head). It also indicates that a certain change in the tension of the membrana is necessary for the more efficient reception of sounds when their pitch extends beyond a certain range, so that by a very few stages of tension it may suit all the sounds coming within the scope of audition, without adapting itself to each respective sound, as some physiologists suppose.

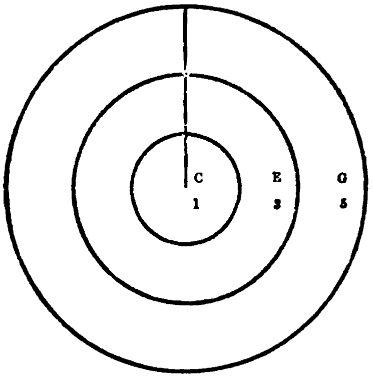
In the eye the beautiful arrangement of transparent media, varying in refracting power, does away, to a great extent, with the necessity for a special adaptation of the organ to colours of a different refrangibility; which property holds the same ratio to colours that pitch does to sounds.

There are two special functions enjoyed by the human ear: by the exercise of one we are enabled to tell the distance and locality from whence sounds originate; and by the other, we can compare the relative pitches of sounds. And so also in the case of the eye we notice corresponding endowments: for while we form a judgment of the distance and position of objects by the light which they reflect, we can also appreciate their colours. But individuals are to be found in whom one or other of these functions is deficient, either as regards the eye or the ear. Thus, a person may have no power of judging the distance through which a sound may have travelled in order to reach his ear; or, what is analagous with respect to the organ of vision, he may not be able to conceive how far an object is distant from him by its image depicted on his retina. Again, he may have acute hearing in every respect, but no power of ascertaining the pitch of a musical sound, or its relative position in a scale of eight notes; or, what is similar with regard to the eye, he may not be able to discriminate between one colour and another, although every object, as to outline, light, and shade, is distinctly perceived; so that the power of distinguishing the pitch of sounds by the ear, and the species of colour by the eye, are analogous functions in both these organs. Now, as in those persons who have had no perception of the pitch or agreements of musical sounds, no change of the structure of the ear is revealed by dissection, which would explain the cause of the deficiency, we have only to infer that it is functional, *i. e.* not depending upon any modification of the organization of the ear itself, but probably upon some defect in the centre, to which its impressions are conveyed. And thus we may also say that the cause of that want of power which some individuals manifest in ascertaining the different colours, is not to be discovered by dissection; and the explanation given in reference to the ear is also applicable here until a better can be afforded by future discovery.

We now proceed to examine the properties of the ordinary drum-head as applied to the physiology of the membrana tympani.

There are three notes on the drum-head, which are just as naturally produced as the harmonics of a musical string. One is limited to the centre, a second to the circumference, and a third to the intermediate portion.

The central point gives the tonic or key-note of the instrument, say C; that of the circumference being a 5th, or five notes higher than the central, is equivalent to G; while the note between these, which is a third above the key-note, corresponds to E: thus, the constituents of the perfect chord or triad of C may be produced by striking those several parts successively. Here also, we perceive that the laws of vibrating chords are extended to membranous substances, and harmonic vibrations may be induced in either, forming the natural harmonies of its own peculiar note: thus, a string sounding C may have secondary or harmonic vibrations excited in several of its parts, making up the elements of the perfect chord, and this is also well exemplified in the drum-head.



It is a point worthy of attention, that the strength and penetrability of sounds are in the direct ratio of their depth and gravity, just as colours are more powerful in distant effect as they approach the red, or least refrangible degree of the scale. The bassoon may be heard distinctly in a distant band, while the clarionets and treble instruments generally, are inaudible. And again, the flute stop on the organ is very mild, producing no attractive effect beyond its peculiar sweetness,—while the lower notes of the stop diapason throw the whole church into sympathetic vibration: the window sashes commonly take their part in the general excitement, giving out sounds resembling the snare of a drum, but which are in perfect unison with the notes of the pipes. Indeed, without multiplying instances, it clearly appears from these facts, that a very considerable diversity exists in the power and penetrability, or distant effect of sounds, which differ in pitch and quality of tone.

The consideration of the properties of the drum-head (above referred to) accounts for the extension of the handle of the malleus to the apex or centre of the membrana tympani, (as indicated by the perpendicular in the diagram), in order that it might fully receive, and convey to the seat of impression, the vibrations of its separate segments, (whether harmonically or sympathetically excited), according to the relative strength of their sounds,—so that the inequality naturally existing between them may be diminished, and an equable effect be produced on the nerve. Thus we find that the high notes affecting the circumference of the membrane take but a short course along the handle of the malleus, agreeable to their pitch and intensity; while the vibrations of the centre, which are of a grave and penetrating character, take the trajet of the entire manubrium; and in this manner the inequality is compensated, and an important physiological end answered. In short, the handle of the malleus, in correcting the unequal effects that would necessarily result from the diversity of the pitch and power of musical intervals, takes an analogous office to that fulfilled by the refracting media of the eye, whereby the contending refrangibilities of different colours are reconciled; and all are brought as nearly as possible to impinge upon the retina at the same time.

There is another interesting fact to be mentioned in reference to the change of key in music, *i. e.* that in order to establish any note as a new key, a correct conception of its fifth is necessary, as any other interval will not determine it. And this constitutes the difficulty in following abrupt modulations, or sudden changes from one key to another, without notes of transition, just as the educated eye feels hurt when discordant colorific intervals are ignorantly associated; for the impression of one colour must be artfully neutralized by the juxta-position of others having a sympathy with it. Now the three vibrating segments of the membrana tympani, corresponding to a key-note, its third and fifth, embrace all the requisites for determining the key; and this natural or physical division of the membranous surface, producing the perfect chord above mentioned, explains the necessity for every musical composition, both commencing and ending with this combination of sounds, and applying the laws of musical harmony to the association of colours,—

we shall find a necessity for establishing some one colour for a key-note in pictures, upon which we may construct a colorific chord.

Again, on the principle of harmonic vibration, if we suppose the note C alone to impinge on the membrana tympani, the notes E and G will be harmonically excited: and thus, the physical change on the surface of the membrane being communicated to the auditory nerve, induces the mental conception of its natural agreements; and this, we may conclude, is the mode of instruction which the mind undergoes in the formation of what is called "*a musical ear*,"—a faculty enjoyed by some favoured individuals, independent of any musical education.

The laws of the complementary colours have a similar bearing on the visual faculty: thus the impression of red (equivalent to C) on the retina induces the perception of its complementary colour (green), or the union of yellow and blue (the third and fifth), answerable to E and G respectively, to the complementary colours of which (purple and orange) the same mode of analysis will apply, as they form part of this harmonious triad.

In conclusion, we shall make a few observations, founded on a remarkable phenomenon connected with the bar and sound-board, not mentioned in detailing the experiment, serving to elucidate the nature of time, and the mental appreciation of the rhythmical division of the parts and bars in musical compositions.

When a tune was played on the pianoforte, the steel rod was found to mark the time with unerring precision, by a drumming action on the sound-board, taking part in the base and treble, and delicately articulating the accented parts of both,—as when a bar of four crotchets in the base was accompanied by sixteen semiquavers in the treble, the simple and compound percussions were distinctly audible, and, although simultaneous, the pulsations of the crotchets were perceptible; while the treble performed a sixteen stroke roll, far excelling the first order of drumming, in closeness and neatness of execution. During the performance of many passages, every species of paridicle, five, seven, and nine stroke rolls, with such instances as occur in French, Austrian, and other rebeilles, where the utmost skill in drum-beating is called into exercise.

These observations would be of small moment in themselves did they not bring to light certain physiological facts in the action of the membrana tympani and ossicula auditus hitherto undiscovered. Thus the membrana tympani, and malleus, accurately represent the sound-board and steel rod of the foregoing experiments; and we fairly infer from the reasons *à priori*, that, while the membrana communicates its vibrations to the ossicles, it also causes the malleus to percuss the face of the incus, responsively to the sudden and powerful impressions made upon it. As in the accentuations, pianoforte, &c., in a musical piece, so as to mark with extreme accuracy the character of the time—whether it be common, triple, or any modification of these; and if the parts of the music be deranged by a defect in time or metre—an uneasy jog is produced on the auditory apparatus: and hence the antipathy which the mind feels to any erratic deviation in this respect. In short, the malleus being in itself an oral metronome, induces a sense of derangement with the same fidelity as the mechanical contrivance, whose oscillations correspond with every change of its index.

It is very remarkable, that the malleus and incus (the hammer and anvil) should correspond not only in figure, but also in function, to the objects from which their respective names are derived; for, as we have already seen, the uses of the hammer and anvil, as employed in mechanics, are literally fulfilled by the malleus and incus, which function answers very important ends in the faculty of audition; as, by the action of one upon the other, sounds are not only correctly transmitted to the auditory nerve from their original sources, but an accurate register of time is effected in the manner above explained; and thus the mind is impressed with a faithful transcript of the harmony, style, and general effect of musical pieces.

With respect to rhythm, it is in music what symmetry is in the arts; for, as the lateral parts of symmetrical bodies or their pictorial representations must be similar, in order to maintain the special character, so the parts of a melody, although consisting of a series of intervals, impinging successively on the ear, must be equal in duration, as, though symmetrically disposed, on the one hand preceding, and on the other following a centre of time—for equal breadth in visual impressions is analogous to equal continuance in those of audition, space having the same relation to the organ of vision that time has to the organ of hearing. In this point of light the difficulty of philosophers in explaining the nature of rhythm appears in some measure cleared away; for it is no more wonderful to suppose that we should appreciate in the mind equal portions of time as presented to the ear in the several parts of a melody, than that we should conceive of similar portions of space, either as occupied by natural objects or their outlines in pictures. But this power of calculating mentally the half or any fractional division of a given substance, is without doubt acquired by practice and experience. Now the very same thing may be said of time or rhythm in music; for it is well understood that the most difficult thing to be attained in the study of that science is a correct appreciation of the value of notes composing the several bars of musical pieces, as regulated by a determinate time. And it is not unreasonable to presume, that the physical impulses of the malleus, whereby it percusses the incus in accordance with the measure of the music, are the very means employed by nature in thus instructing the mind to appreciate musical symmetry or rhythm.

ON THE
USE OF EMETICS IN CHOLERA.

By Gavin Milroy, M.D.
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No. 1.

Although the following remarks have no claim to novelty, yet, if they should have the effect of fixing the attention and guiding the practice of some whose experience has been limited, and who may not have had an opportunity of witnessing a case of malignant cholera, their object will, I trust, be not altogether unprofitable. In the treatment of every disease, it is, of course, of first-rate consequence that we should have some rational principles to direct the administration of our remedies—principles derived not so much from speculations as to the proximate cause of the malady, as from a diligent observation of the *juvantia* and *lædentia*, and of the method which Nature herself seems to follow in striving to overcome or get rid of the evil that is distressing her. What a simple and striking example of this have we in a mild case of common or English cholera! From some cause or another—it matters little whether this has been an indiscretion in diet, great heat of the weather, or a malarious condition of the atmosphere,—an excessive quantity of bile, and this, too, generally more or less vitiated, is thrown out upon the bowels; and the effect of this inordinate secretion is to bring on violent expulsive actions of the stomach and bowels, giving rise to the bilious vomiting and purging that are characteristic of the disease. Such cases very often require no aid from art: when once the offending matters are expelled from the body, all the symptoms immediately subside, and the patient is straightway as well, and frequently better, than he was before. If professional assistance be sought for, there can be no doubt that every sensible practitioner would in the first place promote the medicative efforts of Nature by the liberal use of mild diluents, with the view of encouraging the prompt and effectual discharge of the acrid bile. The irritability of the stomach and intestines will very generally cease, as soon as this is effected. Should it, however, persist, the simplest as well as the most efficacious remedy is a sinapism, or such like irritant, applied over the epigastric region. Whenever this begins to act, the inverted and exaggerated peristaltic movements will, in ninety-nine cases out of the hundred, simultaneously subside. There may be no objection to give a spoonful of brandy, or of any mild aromatic cordial, at the same time: although not necessary, it will do no harm, and, moreover, will not be unacceptable to the patient. A day or two after such an attack, it will generally be expedient to give an aperient (castor oil is the best, if the patient can take it), as a tendency to constipation very often ensues, and some portion of the depraved secretions have lodged behind.

Small doses, too, of magnesia, taken two or three times in the twenty-four hours, will be useful, by correcting the acid condition of the *primæ viæ* which is usually present under such circumstances.

So much for a mild case of the common cholera of this country. Let us now see whether similar principles of treatment are applicable to the more severe and aggravated forms of the disease. And here I would remark, that under this term I include all cases, however alarming, whether from the prostration of the patient, or from the intense sufferings he endures, in which the rejected matters from the stomach and bowels are more or less bilious, and do not consist of the rice-water-like fluid (believed to be the serum of the blood itself, drained off from the mesenteric vessels), which is so characteristic of the Asiatic pestilence. In making this distinction, I do not, however, wish it to be supposed that such a line of well-marked demarcation can be always drawn between different cases; for, on the one hand, in a good many instances, the true serous evacuations have unquestionably been observed in cases of genuine English cholera, during seasons when the Indian epidemic was wholly absent from Europe; and on the other, very many cases of the Asiatic disease commence with vomiting and purging of bilious matters. It is, therefore, far from being easy to establish a strongly-marked or palpable distinction between certain cases of the two diseases, however wide may be the distance between a mild one of the common cholera of this country, and a concentrated one of the Asiatic pestilence;—not greater, however, than between a Lincolnshire ague, and the worst forms of fever in Java or on the coast of Africa: and yet the essence, so to speak, of the malady is the same in both, as might be easily shown by a variety of considerations. It is, therefore more for the convenience of therapeutic than of nosological inquiry, that I make the presence or absence of bile in the matters rejected from the stomach and bowels the distinctive feature between English and Asiatic cholera; and, moreover, it has the advantage of constituting a test of the gravity and danger of the attack in each individual case. Whenever there is a tendency, in a case of English cholera, to the egesta becoming watery and devoid of colour, our prognosis is at once more unfavourable: and I need scarcely say that one of the most satisfactory signs, in a case of the true Asiatic disease, is the first re-appearance of bilious matter in the evacuations. As I shall afterwards have occasion to allude to this point, I shall not say more at present, but pass on to consider the treatment in an aggravated case of the English disease. Probably the best way of illustrating my views upon the subject will be briefly to narrate two cases that have occurred under my inspection within the last few days.

J. W., æt. 33, a piano-forte maker, residing at Camden Town, in a house where the drains were in an offensive state, had been affected alternately with diarrhœa and constipation during the last two or three weeks. On the morning of Saturday, the 7th instant (the weather for some days before was unseasonably warm and close), his bowels acted immediately before and after breakfast. He then went to his work; and, while there, was suddenly seized with profuse vomiting and purging of what he described to be bilious matter, accompanied with excessive prostration of strength. He was immediately conveyed home, and Mr. Jakins, of Osnaburg Street, sent for. Before Mr. J. saw him, the vomiting and purging had been almost incessant, and still continued: what came from the stomach was tinged with bile, but the dejections were watery, and scarcely coloured. The patient, a thin delicate man, was at this time (2 P.M.) in a state of great exhaustion; the surface cold and damp; the face of a bluish hue, lips purple; the pulse thread-like; and the lower extremites affected with violent cramps. Two grains of emetic tartar were immediately given, and the patient made to drink freely of hot water. The retching and straining that ensued were most severe, but, after continuing for a short time, they subsided; and from that moment the vomiting entirely ceased, and the purging was much quieted; at the same time the surface of the body became warmer, and the patient confessed himself to be altogether more comfortable. At four o'clock Mr. Jakins again visited him, and found that he had not been sick, but that the bowels had acted several times. He administered an ounce of castor oil, with as much brandy, and ordered an ammonia mixture to be given in small and frequent repeated doses. At eight P.M. I saw the patient with Mr. Jakins: he was altogether in a most satisfactory state. There had been no return of the vomiting, and the bowels had acted only once since the castor oil was taken: the motion had more of a fæcal character. I suggested a sinapism over the epigastric and right hypochondriac regions, and small doses of the Hyd. c. Cretâ, with Ginger and Carb. Sod., to be given every three or four hours. In the course of two or three days the patient was quite well.

The following case is equally satisfactory as to the effects of artificial vomiting: I saw it along with my friend Mr. Chatto.

A woman, about thirty years of age, and recently (a month before) delivered, was suddenly seized on Friday last, the 6th instant, with excessive vomiting and purging, which had continued ever since with but little abatement (notwithstanding the use of a variety of remedies, such as chalk, with opium, acetate of lead, creosote, &c.), when we visited her on Tuesday morning. There had been no great prostration until within the twelve hours preceding our visit, during which period the purging and vomiting had recurred between twenty and thirty times; there was distinct bilious matter in both sorts of evacuations. We at once administered an ipecacuan emetic, and had her to drink off, as quickly as she could, three or four large tumblerfuls of hot water. For five or ten minutes there was no disposition to be sick; at length, the greater part of the water drunk was rejected, with but inconsiderable traces of bile. As the vomiting did not return within the next quarter of an hour, we left her about noon, having previously ordered a strong sinapism to be applied to the epigastric region, and a dose of castor oil and brandy to be given two hours subsequently. On revisiting her at five P.M., we found that there had not been any vomiting or purging, and that she was in all respects much better. Next day the report was that no vomiting whatever had occurred, and that the bowels had acted four times. She had also slept a good deal during the night, a luxury she had not enjoyed since she was taken ill. As there was much flatulence in the bowels, small doses of magnesia, in peppermint water, were ordered, and beef tea and arrow root, with brandy, allowed for food. In the course of another day she was quite convalescent.

It would be easy to multiply such examples of the prompt and decided arrest of vomiting and purging, by the use of an emetic: but these two will suffice for the present. The relief in both was permanent as well as immediate. It appears to me that the practice in question is not less sanctioned by the results of experience, than it is strictly accordant with sound physiological reasoning. For if the excited movements of the stomach and intestines be induced by the presence of any acrid matter in the *primæ viæ*, the sooner it is dislodged the better; and, again, if they persist after this has been done, and in consequence (as it would often seem) of frequent but ineffectual efforts of the parts affected, is it not reasonable to expect that a constrained and very forcible contraction of their walls, as well as of other co-operating muscles, will cause the feebler actions to cease?

That the purging should so generally abate, and often entirely subside with the vomiting, seems to be owing, in a great measure, to the inverted peristaltic movements of the stomach and duodenum superseding, as it were, and suspending the natural detrusive action of the bowels. Cullen recognizes this explanation, when he says, "it is possible that vomiting may give some inversion of the peristaltic motion which is determined too much downwards in diarrhœa, so that, upon the whole, it is a remedy which may be very generally useful in this disease." In dysentery, more especially, the advantages of beginning the treatment with an emetic dose of ipecacuan have been strongly enforced by some of the best writers on this malady; and here I would remark, *en passant*, that the amount of relief so obtained is by no means proportionate, in all cases, to the quantity or quality of the matters expelled from the stomach. What Sydenham says of the operation of a vomit at the onset of a fever, is quite as applicable to dysentery, and to cholera also. "I have often," says this admirable writer, "while looking at the matters rejected by vomiting—and these were, perhaps, not remarkable either for quantity or for their unhealthy appearance—wondered how it came to pass that the patient should immediately experience so much relief; for no sooner has the vomiting been over than the severe symptoms—viz. the nausea, anxiety, restlessness, deep sighing, blackness of the tongue, &c.—which both distressed him and alarmed the attendants, have been usually mitigated or altogether removed, and the remainder of the disease has been very easily endured." (Observ. Med. i. 4, § 13).

It is well known that, on more occasions than one, Sydenham emphatically condemns the practice of trying to stop the upward and downward evacuations in cholera, by the use of opiates and astringents, and that he expressly recommends that, at first, the vomiting should be encouraged by the copious use of any mild diluents. In this respect, he has been followed by almost all the best practical writers since his day. But it is mainly, if not solely, to the expulsion of offending matters, that regard has generally been had in adopting this wise plan: the manifold and various effects of full vomiting have, perhaps, been scarcely considered with sufficient attention. I must reserve my remarks upon this subject till my next paper, when I propose to consider the use of emetics in Asiatic cholera. At present, I shall merely remark, that obstinate and protracted vomiting will not unfrequently yield to a full dose of ipecacuan, after opium, creosote, effervescing draughts, &c., have been ineffectually tried. In other cases, I have found it to be best relieved by the administration of a purgative enema; the forced action of the bowels downwards suspending the inverted action of the stomach and duodenum, and thus affording us the counterpart to the arrest of a diarrhœa by the operation of an emetic. In both cases, the simultaneous use of an irritating epithem to the abdomen will prove a powerful adjuvant.

In conclusion, I would remark, that the medical practitioner will find it most useful, in every severe case of cholera, to superintend the action of the emetic himself; and, in a season like the present, it will save much time for him to carry some tartrate of antimony, or, what is better, ipecacuan powder, in his pocket; a small phial of sal volatile also will be found very serviceable. Of course, the patient should always be in bed at the time: indeed, this remark is of universal application, as respects the use of emetics; otherwise, some of the most salutary after-effects of the vomiting will be altogether lost.

30, Fitzroy Square, October 1848.

[To be continued.]

EXCRETION OF SULPHUR BY THE KIDNEYS.

SULPHUR was classed by Wöhler among the substances excreted from the system through the urine, in the form of sulphuric or hydrosulphuric acid. The presence of this element in the urine has, however, been since denied by some chemists; but M. Griffist, of Strasburg, as well as other recent experimenters, have clearly demonstrated the truth of Wöhler's observation. M. Griffist shews, that while in the urine of man, in its healthy condition, the quantity of sulphuric acid amounts to 0·134 per cent., or 34·3 grains in twenty-four hours, and the quantity of sulphur to 0·024 per cent., or 5·1 grains in twenty-four hours, the ingestion of sulphur with the food will sometimes raise the quantity of acid to 85 or 89 grains in twenty-four hours, and of sulphur itself to near 8 grains. This affords satisfactory proof that sulphur is absorbed in appreciable quantity into the system, and, in the course of its circulation, becomes oxidized. —*L'Union Médicale*, 1848.

⁂ The presence in the urine of a small quantity of sulphur uncombined with oxygen has lately been noticed, among others, by Mr. Ronalds,[*] who believes that from three to five grains of this element are thus daily excreted. A

TREATMENT OF LEAD COLIC.

M. MARTIN-SOLON speaks of having derived great advantage from the employment of large quantities of emollient or acidulated drinks in the treatment of this form of colic. He adopted this plan, combined with the use of emollient injections, twice a day, in twenty-two cases, in all of which the patients were cured in from six to fourteen days.—*Ibid.* A

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[*] Philosophical Magazine, 1846.

MEDICAL GAZETTE.

FRIDAY, OCTOBER 27, 1848.

THE fact that we are unable by any consistent theory to account for the erratic course of the cholera, is no reason why we should not employ every available means to prevent its propagation throughout the country. We cannot enter into that commercial view of the subject which leads its advocates to allow of the free and unrestricted importation of cholera patients into our seaport towns. Admitting that the disease is already in this country, it is desirable to avoid, as much as possible, the importation of further supplies. It is bad enough to have small-pox in one quarter of the metropolis; but because it exists in one or two districts, we cannot see why we should relax our efforts to prevent the disease from spreading to other quarters. The quasi-medical writers of the daily journals argue in a different way: they say, if we have the cholera at Hull or Sunderland, it is of no use attempting to keep it out from any port where it has not hitherto shown itself. The best that can be said for such reasoners is, that they are desirous of having no interference with free-trade. They would argue in the same way, if the Plague were at Calais, or the Yellow Fever at Boulogne.

It is only recently we announced the imposition of quarantine, by an order in Council, on all vessels coming from Hamburgh and the Baltic ports, where cholera was known to be prevalent. This was a wise and judicious measure, but it gave great offence to the commercial party, on whom, of course, trouble, expense, and actual loss, were thereby thrown.

The Privy Council, too, by reason of this order, had acted in opposition to the views of the *non-medical* Board of *Health*, the members of which had declared that cholera was *not* communicable from one person to another, "in any manner whatsoever." We were, therefore, quite prepared to find that the order would be speedily rescinded, and that, on the current principles of trade, the importation of cholera into this country would be freely permitted; in short, that, however healthy a seaport town might be, it should not have the remotest chance of escaping a visitation of the disease. If the inhabitants of Hull and Sunderland were suffering from the disease, why should those of Southampton and Bristol escape? The following order for the entire abolition of quarantine was issued only twelve days after it had been imposed:—

> "*Abolition of quarantine.—Order in Council.* — A communication has been received by the Commissioners of the Customs Department, from Mr. Bathurst, one of the clerks to the Lords of Her Majesty's Privy Council, stating that he has been directed by the Lords of the Council to inform them that an official communication having been received on the 17th inst. by their Lordships, from the General Board of Health, stating the actual existence of Asiatic cholera in Great Britain, although not in an epidemic form, and that such being the case their Lordships are of opinion that quarantine precautions against that disease are no longer necessary; and that he (Mr. Bathurst) was further directed to state that in future it will not be necessary to report on or detain vessels arriving in Great Britain with cases of cholera on board; and further, that all vessels at present under restraint of quarantine might be immediately released. In pursuance of this communication from Mr. Bathurst, a copy of their Lordships' order has been furnished to the principal officers of the Customs Department at the several ports and places throughout the kingdom, as well as to the port of London, with directions to take care that the same be duly obeyed."

We do not entertain any doubt that the cholera in Hull is to be ascribed to its importation from Hamburgh. At first a few cases occurred on board of ships from ports where the disease was known to exist. In our last number we had occasion to record seven deaths from the disease, five of which had taken place in the town; and we have been informed, on good authority, that most of the cases which have as yet occurred in the port of London, have been among the crews of vessels from the ports on our northern coast which are in direct communication with Hamburgh. Putting these facts together, we can draw no other inference than that, as in 1831-2, the cholera has reached our shores by direct importation. When it has once reached a country, the disease may diffuse itself under circumstances in which it will not be by any means easy to trace out the mode of its propagation. It is not *endemic*, or confined to a particular spot, although in the case of the Justitia convict ship, according to the *Times*, the cholera was endemic "on the starboard side and stern thereof particularly and exclusively,—that part being exactly opposite the mouth of a sewer, which empties itself into the Thames." This, however, is a solitary instance, and one so remarkable, that we doubt whether we can find anything like it in the previous history of the cholera. The poison of the marshes of Jessore, on the banks of the Ganges, is thus found in the contents of what, according to our information, is a comparatively innocent country sewer! The origin and localization of the cholera in the *stern* of the Justitia baffles all theory: it is something *sui generis*, and cannot, we suppose, be the disease which is described as having made a steady progress from west to east, appearing in the western ports of the continent before it showed itself in the eastern ports of our own country, and following throughout the great lines of commercial and maritime intercourse!

Another fact worthy of remark is, that the cholera of the Justitia has not manifested any *epidemic* tendency. It has been confined to this convict ship alone. The latest reports inform us that the disease has not shown itself among convicts in other ships, or among the inhabitants of the town; and we are now quite at a loss to understand how the cholera poison from this Kentish sewer has been specially conveyed to the stern of the Justitia. If there has really been a local origin of this poison on the banks of the Thames, it remains to be explained how it is that the cases which have yet occurred in the river have been among the crews of vessels from ports on our northern coast. Besides, before admitting the sewerage theory, it would be desirable to know why cholera has not shown itself among individuals living near the mouths of other sewers which drain much more extensive districts.

The only ground upon which this sudden abolition of quarantine can be justified, is, that intercourse between an infected and uninfected port cannot be prevented with that degree of strictness which is indispensably necessary to prevent the importation of a disease. We are not yet quite certain as to the period of incubation of cholera. One of the recent fatal cases at Hull was that of a female who arrived in the port from Hamburgh on Saturday night apparently in good health. There was no case of cholera on board. A few hours after her arrival she was seized, and died the following day. The fact that there has been no case of cholera on board, and that all are apparently in good health, is therefore not necessarily a criterion of safety.

It appears to us that the Lords of the Privy Council have been somewhat premature in ordering the entire abolition of quarantine only twelve days after they had commanded its imposition. Such a sudden change in their views reflects but little credit upon their judgment; and the reason which they have assigned in their order does not justify their proceedings. They do not appear to have consulted our Colleges, or to have taken any medical opinions; but they have allowed themselves to be guided partly by the views of a Board of Health not constituted of medical men, and partly by the representations of those who are pecuniarily interested in the entire abolition of quarantine. Admitting that we have the disease among us, its attacks have been hitherto limited to a few persons, and confined to a few localities. The Lords of the Council have resolved by this order that no British sea-port, however healthy, shall have any sanitary protection thrown around it. The proper course to have pursued would have been, in our view, to have maintained a limited quarantine with respect to all vessels from infected continental ports, making it more stringent when deaths from cholera had occurred during the voyage, or when the disease had not already shewn itself in the British port at which the vessel might arrive. It is possible that, even with these precautions, not one of our seaport towns would escape the disease; but the recent order in Council goes the length of licensing its immediate importation into healthy places; and each port may thus become a channel for the sure diffusion of the disease over the whole country.

We must reserve for another time some remarks which we had intended to make on the diffusion of the disease by articles of clothing. Quarantine appears to be tried by an unfair test in restricting the proofs of its efficiency to the power of preventing the propagation of disease from person to person. We believe that due inquiries are rarely made respecting the clothing of those who have died from cholera; and to this secret and unsuspected source of propagation may be probably attributed many cases in which there is a failure of proof of personal intercourse.

We have again to report favourably of the state of health of the metropolis. The cholera makes but little progress, and still shows itself only in a few isolated cases, so that it cannot be truly said to have assumed as yet an epidemic character. We have elsewhere* recorded the facts which have reached us respecting the disease. As yet, Edinburgh appears to have suffered more than any other town; and the fact that out of 175 cases, no less than 102 have proved fatal, is calculated to excite alarm. The deaths from cholera in the metropolis during the past week, have exceeded those of the preceding week; and it is still to be observed, that the greater number of fatal cases have occurred at the adult period of life. On the whole, however, it is satisfactory to know that the weekly deaths are no less than 171 below the average, and that scarlet fever, typhus, and other zymotic diseases, have been less fatal.

The only fatal cases of cholera reported this day (Thursday) are two which occurred at the Millbank Penitentiary, and one which occurred at Chatham, on all of which inquests were held. In the last-mentioned case, death was ascribed to English cholera.

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* Page 731.

Reviews.

On the Employment of Chloroform in Dental Surgery: its Mode of Exhibition, &c. By F. B. IMLACH, Dentist, Licentiate of the Royal College of Surgeons of Edinburgh, &c. Pamphlet, 8vo. pp. 9. Sutherland and Knox, Edinburgh. 1848.

WE have but recently discussed the subject of this essay in a notice of Mr. Tomes's Lectures on Dental Surgery.* Mr. Imlach is an advocate of the use of chloroform vapour in dental operations; and, on the old principle of *audi alteram partem*, we shall give him the benefit of stating his mode of employing it, and the conclusions at which he has arrived respecting its use. He says—

"*Firstly.* I settle the patient in an easy and comfortable position, with the head supported by some firm object. I am also in the habit of requesting him to close his eyes, in order to avoid the irritation of the chloroform vapour, and to prevent any accidental mental or physical excitement, as from the sight of an amusing object, or the glare of too bright light. Of course, all noise of every kind is strictly prohibited during the inhalation, and I think it advisable to warn him against being alarmed by extraordinary noises, as ringing in the head, or by flashes of light before the eyes, or a feeling of giddiness, or vertigo.

"*Secondly.* As to the dose. I am always in the habit of pouring a large quantity upon the handkerchief, and diffusing it over a surface larger than will cover the nose and mouth. The quantity I never measure, as I judge by the effects and not the dose; but I believe I seldom begin with pouring, at first, less than three or four drachms upon the handkerchief. In fact, I pour upon it a quantity sufficient to moisten completely the required surface. Many of the supposed bad effects, doubtlessly, result from giving a small, imperfect, and consequently mere exciting, dose.

"*Thirdly.* The mode of administration. The chloroform is poured upon a thin white cotton handkerchief. An old one answers the purpose remarkably well. This I hold at first at the distance of two or three inches from the patient's mouth, and allow him thus to take two or three deep inhalations. I then approximate it more closely to the face, but never bring it into close contact. In this position the handkerchief is continued till the anæsthesia supervenes. In judging of this point, I depend upon no single circumstance, and the indications are of such a varying nature as cannot be described, but are easily perceived after some experience in the practice.

"*Fourthly.* The moment the handkerchief is removed, I apply the instrument (kept ready in my hand), and at once proceed to extract the tooth. If several teeth are to be extracted or punched, or if I require to change the instrument in use, it may be necessary to recommence the inhalation for a short time. This readiness at the proper time, and the rapid and immediate extraction, I consider the chief secret of success.

"*Fifthly.* The great mass of patients, on becoming insensible, have their jaws so clenched, that there is no possibility of opening the mouth, and the operator keeps working away, tugging at the under jaw, or pressing upon the angle of the jaw externally wlth his knuckles, trying to force open the mouth. This, again, is easily remedied, by the very simple method of never allowing the patient to close his jaws at all, by placing a small gag of ivory or gutta percha between the teeth, before administering the chloroform. No patient objects to it, and it causes him no inconvenience whatever."

Mr. Imlach draws the following conclusions respecting the use of chloroform:—

"1. That out of above 300 cases of dental surgery, in which I have employed chloroform, I have never seen the least deleterious effect result from its use, but the reverse.

"2. I have seen or traced no after bad consequences of any kind whatever.

"3. I have seen no case in which I have been afraid to give, and where I have not given it quite successfully.

"4. It saves the patient's present physical suffering and previous struggles of feeling.

"5. It enables the dentist to perform his work with more satisfaction, certainty, and success.

"6. Patients who have once had a tooth drawn under the influence of chloroform, invariably demand the repetition of the chloroform on requiring again the same operation."

It is obvious, from this statement, that the author has been very successful in his practice. He has fortunately not met with a case like that of Mr. Badger, which occurred in this metropolis last spring. We believe that the result of this case has been a heavy blow and great discouragement to the use of chloroform in dental operations.

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* Page 545.

Of what conflicting elements medical experience is made up, will be sufficiently apparent from a case reported by the author in his essay. Some facts related by Mr. Tomes tend to shew, that the inhalation of chloroform vapour has had the effect of disturbing the mental functions, and of producing a state similar to insanity. Mr. Imlach's experience goes the other way; for he found that the vapour had a tendency to restore temporarily an intellectual expression to an imbecile.

> "One very curious effect that I witnessed whilst administering chloroform to a patient whose intellect was very much impaired from some affection of the head, so as to leave her imbecile, was, that whilst under the influence of it, her eyes being open, her countenance lost the vacant expression habitual to it; and she looked round in my face with an intellectual expression so calm and so rational that I was perfectly startled. Whilst gazing at her, however, the effects of the chloroform passed off, and she awoke with the same unmeaning laugh and vacant gaze that she had before. I mentioned this circumstance to my friend Dr. Simpson the day that it occurred, and I thought of trying what effect the habitual use of the chloroform might have upon the patient by stimulating the brain so as to assist the cure; for this patient, I was informed by the parents, is gradually, though slowly, recovering the use of her faculties; and we do not know but that, by stimulating the brain, it might materially assist in the recovery; but I must leave this for others better acquainted with affections of that sort than I am, and recur to my own department."

These conflicting results appear to us inexplicable, except upon homœopathic principles!

Mr. Imlach's conclusions respecting the use of this agent in dentistry are fully warranted by the results of his own observations. Others, however, of great experience as dental surgeons, have been less fortunate than the author; and we believe that, so far as operations on the teeth are concerned, the general opinion now is, in the words of Mr. Tomes, that the remedy is strangely out of proportion to the evil to be avoided.

Lectures on the Diseases of Infancy and Childhood. By Charles West, M.D., Fellow of the Royal College of Physicians, and Lecturer on Midwifery at St. Bartholomew's Hospital. 8vo. pp. 448. London: Longman and Co. 1848.

The fact that Dr. West's Lectures have so recently appeared in the pages of this journal, renders it unnecessary for us to do more than advert to their separate publication. While we consider that these Lectures have formed a most valuable contribution to our pages, we cannot hesitate to recommend this volume as a most useful addition to the library of every practitioner. The diseases of infancy are but too little studied: hence their treatment is often of an empirical kind, and success is the result of accident, excepting in those cases in which long experience may have supplied the practitioner with that knowledge which should have formed a part of his medical education. Several works on the same subject have appeared of late years, but we know of none which contains a more complete account of infantile diseases and their treatment, than that which is now before us. The author is not one of those who sit down contented with their own experience: on the contrary, the researches of foreign writers on the subject are duly noticed, and their conclusions fairly considered. The volume, which is well printed, and contains much in a small compass, may be regarded as a very creditable contribution to English medical literature.

Elements of Chemistry, including the applications of the Science in the Arts. By Thomas Graham, F.R.S. Professor of Chemistry in University College, London. Part 3. 2nd edition, from p. 353 to 544. London: Baillière. 1848.

The subscribers to this excellent work will be glad to learn that another Part has just issued from the press. Although the parts appear at intervals somewhat long for those who are desirous of having a complete work of reference, it is evident that the author is sparing no pains to improve each section of his work, and to bring it up to the high position in science, which modern chemistry has attained.

This part comprises Ammonia, Carbon and its compounds with oxygen, hydrogen, and nitrogen, Boron, Silicon, Sulphur, Phosphorus, Chlorine, Bromine, Iodine, and Fluorine, with which the history of the Non-Metallic Elements is closed. The Metallic Elements are commenced in the sixth chapter, and besides the general properties of the metals, we have in this part the Chemical history of Potassium and its compounds. The type and paper are better than those used in the first edition of the work, and many new illustrations, which are well executed and clearly printed, have been added. So far as we have examined the new edition, the author appears to have omitted nothing which might render it a perfect treatise on chemistry.

Proceedings of Societies.

EDINBURGH MEDICO-CHIRURGICAL SOCIETY.

DR. HAMILTON, President in the Chair.

On Solutions of Gun-cotton, Gutta percha, and Caoutchouc, as dressings for wounds, &c. BY PROFESSOR SIMPSON.

[It is only due to Professor Simpson to state that, a subject which has recently attracted great attention—namely, the employment of new adhesive preparations in surgery, was made known by him to the Edinburgh Medico-Chirurgical Society in May last. We reprint from a recent number of the Edinburgh Monthly Journal, the following account of his observations and experiments, including those of Mr. Maynard and Dr. Bigelow, in the United States.]

At different periods in the history of surgery, very different practices have prevailed in regard to the treatment of wounds. At one time, in injuries or incisions of any great extent, the whole sides of the divided or cut surfaces were dressed as separate and distinct wounds; and all chance of immediate union prevented. Slow reunion by suppuration and granulation, or, as the old surgeons termed it, by "digesting, mundyfying, and incarning" wounds, was alone attempted. Afterwards, however, and yet not without much doubt and opposition,* the practice was introduced of placing from the first the sides and lips of the wound in contact, and thus allowing nature to produce the spontaneous adhesion of the whole wound, or as much of its surfaces as will thus adhere. In other words, reunion by the first intention came to be more and more attempted *after* the discovery of the doctrine of adhesion (as it was termed) was duly made and fully acted on.

But no small difference of opinion and practice has prevailed as to the best mode of bringing and retaining in contact the sides of such wounds as are capable of healing by the first intention. A great variety of bandages, plasters, needles, and stitches, have been invented for this purpose. And, the propriety or non-propriety of using sutures in preference to plasters (the *sutura cruenta*, as it was termed, in preference to the *sutura sicca*), was at one time a special subject of dispute. Louis, Pibrac, and Young, maintained that in all, or in almost all, cases, the employment of the suture should be abandoned as irritating and hurtful. At the present day, both modes of artificial reunion—the *sutura cruenta* and *sicca*—are followed by the generality of surgeons; and often both modes are used simultaneously.

It seems not at all improbable, that another step in advance will betimes be effected, and that surgeons will be enabled to apply to the wound, after its edges are brought in contact, some material or other which, like an artificial plasma, or lute of coagulable lymph, will at one and the same time serve the following purposes:—

1. It will be sufficiently strong and adhesive to retain the edges of the wound together, without the irritation sometimes following the use and removal of sutures or pins;

2. It will serve as a perfect dressing to the wound.

3. It will, however, not be soluble in water, or be easily removed: and hence will enable the surgeon to apply cold, &c., to restrain and modify the action in the wound, if required.

4. Though insoluble in water, the material used must be soluble in some menstruum that is easily and readily vaporized.

5. It will be applied in a fluid or semifluid form, and be thus capable of adapting itself to any irregularity in the edges of the wound or in the neighbouring cutaneous surface; the fluid part evaporating speedily on exposure, and a solid tissue or substance, possessing sufficient tenacity, adhesiveness, and insolubility in water for the above purposes, being left like a plaster on the edges of the united wound.

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* "I would ask (gravely writes O'Halloran in 1765), I would ask the most ignorant in our profession, whether he ever saw or heard even of a wound, though no more than one inch long, united in so short a time (as three days). These tales are told with more confidence than veracity; healing by inosculation, by the first intention, by immediate coalescence without suppuration, is merely chimerical, and opposite to the rules of nature."

The intention of the present imperfect communication is to bring before the Society some of the attempts lately made in order to attain the above objects.

Two or three weeks ago, it was announced in our weekly medical journals, that a solution of gun-cotton in ether had been used in America as a dressing for wounds; and, within the last two or three days, the American journals which have arrived in Edinburgh show that the suggestion of this practice is claimed by two different persons, viz. by Mr. Maynard, a medical student of Boston, and by Dr. Bigelow, of the same city.

Soon after the discovery of gun-cotton or pyroxyline, Schoenbein and Boettger showed that acetic ether was one of its best solvents.—(*Chemical Gazette* for April 1, 1847.) Richner had ascertained that it was entirely soluble in the acetic ethers both of alcohol and wood spirit.—(*Ib.* for February 1.) When xyloidine, or the analogous compound made by the action of nitric acid on starch, is dissolved in ether, or ether and alcohol, Schoenbein found that it was reduced to a colourless gelatinous mass, and that, if spread upon a smooth surface, "*it left a dull white opaque membrane.*"—(*Ib.* for April 1.) I am not aware whether he has recorded any similar observation regarding the ethereal solution of pyroxline, but it is this quality of it that has been turned in America to practical purposes as an application and dressing for wounds.

When gun-cotton is fully dissolved in strong sulphuric ether, it forms a semi-transparent gelatinous pulp. When a layer of this is laid on any surface, the ether speedily evaporates, and leaves an adherent whitish, cotton-like web, which contracts strongly as it dries, and possesses still all the usual inflammable and explosive properties of gun-cotton. In a great variety of trials which I have had made as to the best mode of forming the solution, I have met with very various results. Many of these variations were probably owing to imperfections and differences, either in the quality of the gun-cotton or of the ether. But occasionally, with the same ingredients, the quality of the solution seemed liable to differ. Sometimes after the gun-cotton had been immersed in the ether for ten or twelve hours without much effect, the addition of a little strong spirit immediately effected a perfect solution. The gun-cotton often possesses strong adhesive properties when used before it is all completely dissolved. In using as a solvent, aldehyde, which had been kept for a considerable time, I found a perfect pulpy solution formed in a few minutes. If it could be used as a menstruum, it would possess the advantage of being even more vaporizable than ether. But in trying to repeat the experiment with some aldehyde newly formed for the purpose, the same results were not obtained.

Usually an ounce of strong sulphuric ether will dissolve thirty grains or more of gun-cotton in the course of a few hours. But to form a complete pulp it will in general require to stand for a day. The advantages which the ethereal solution of gun-cotton seems to possess as a dressing for wounds, and particularly for those which it is desired to unite by the first intention, are stated in the following terms by Dr. Bigelow:—

"1st. By its powerful contraction upon evaporation it places the edges of an incised wound in much more intimate contact than is obtained by sutures and adhesive cloth—unites them by equal pressure throughout the whole extent of the wound, and maintains them immoveably fixed. 2d. It preserves the wound perfectly from contact with air, being impermeable to the atmosphere, while its adhesion to the skin is so intimate as to preclude the possibility of air entering beneath the edges. 3d. The substance remaining in contact with the skin and wound after the evaporation of the ether, seems to be entirely inert, so far as any irritating property is concerned, and this can scarcely be said of any resinous adhesive cloth or preparation. 4th. It does away with the necessity for sutures in incised wounds of almost any extent. 5th. It is sure to remain in intimate contact with the skin till union is complete, and being quite impervious to water, and presenting a polished surface, it allows the surrounding parts to be washed without regard to the wound or dressing. 6th. It is colourless and transparent, thus permitting the surgeon to witness all that goes on beneath without involving the necessity for its removal. 7th. No heat is necessary for its application, and the presence of any moderate degree of cold is only objectionable in retarding the evaporation of the ether. 8th. It may be made at a trifling cost; an ounce phial, intrinsically worth little, being sufficient for a great number of dressings."

The adhesive power of this solution of gun-cotton is, when properly made and applied, certainly very great. In evidence of its strong adhesive powers, Mr. Maynard states the following experiments:—"He glued a strap of sheepskin to the hand by a thin layer of the solution, nine lines long and one and a half wide, and it sustained a weight of two pounds. A second strap attached to the hand by a layer of the substance, nine lines in length and three in width, sustained a weight of three. A third strap fixed to the hand by a layer of the liquid, twelve lines square, resisted the force of ten pounds without giving way; and a fourth strap of the leather glued to the hand by a stratum of the solution, measuring one and three-fourths of an inch in length and one in width, was not separated from its attachment by the gravity of twenty pounds!" These statements, says Mr. Maynard, may appear incredible, but they are founded on exact and carefully-performed experiments.

As to the mode of applying the ethereal solution of gun-cotton, Mr. Maynard states, that "In slight cuts a moderately thick coating of the solution, laid over the incised parts, was, on becoming dry, sufficient to keep the lips of the wound in position till union took place; but in most instances it was employed in conjunction with straps of cotton and sheepskin, and with raw cotton, forming with them strong, unyielding, adhesive straps, bandages, and encasements: and, after many experiments, I am convinced that this is the best and most effectual way in which it can be employed as an adhesive agent in surgery. The solution dries rapidly, and in a few seconds; by the evaporation of the ether it contains, it becomes solid and impermeable to water; and a strap moistened with it, and glued to any part of the cutaneous surface, adheres to it with a tenacity that is truly surprising." Mr. Maynard mentions one case in which, after the removal of a tumor from the scalp, the hair in the neighbourhood was shaved, and two pieces of sheepskin were firmly sealed, by the solution of gun-cotton, to each side of the wound at a distance from the edges, and then these edges were approximated and retained in contact by passing stitches through the dead sheepskin instead of passing sutures through the living tissues of the walls of the wound.

Dr. Bigelow's directions for applying the gun-cotton solution are as follows:—"For straight incisions, of *whatever length*, provided the edges can be brought together without great difficulty, it is better to apply the solution in immediate contact with the skin, as follows:—The bleeding should be arrested, and the skin thoroughly dried. If the lips of the wound are themselves in contact, the surgeon has only to apply a coating of the solution lengthwise over the approximated edges by means of a camel's hair pencil, leaving it untouched after the brush has once passed over it till it is dry, during perhaps ten or twenty seconds. This first film will of itself have confined the edges together; but, in order to increase the firmness of the support, more must then be applied in the same manner, allowing it to extend on either side of the incision half an inch or more. If, however, the wound gapes, an assistant is required to bring the edges in contact, and retain them so whilst the application is made. If the incision is so long that the assistant cannot place the edges in apposition throughout the whole extent, begin by coveringsa small portion at the upper end, and apply the solution to the lower parts as fast as it becomes dry above. In this case something more than the film which is left adherent to the skin will be necessary for a safe and proper support to the wound, which may have a tendency to separate. The transparency of the dressing may be still maintained by adapting a piece of goldbeater's skin or oiled silk to the wound. This should be covered with the solution, and the membrane applied after the coating is on and already contracted. A dossil of lint, or a strip of cloth, or even a piece of tissue paper, which is thus rendered tough and waterproof, will answer the same purpose, though not transparent. Where there is much separation, it is better to fortify the wound in this way at once, and as fast as the first coating is applied and dry. 'If, however, adhesion by first intention be not desired, the gum may be painted on in transverse strips, like adhesive cloth, letting the first strip dry, and giving it the goldbeater's skin support before the second is applied. Thus room is left for the escape of pus, and the exposed portion may be watched without removing the strips.'"

It has been proposed to use the ethereal solution of gun-cotton for other purposes than the dressing and union of wounds—as, for example, as a substitute for the starch bandage in fractures; as an application and dressing to ulcers, &c. In abrasions, and slight injuries of the skin about the fingers, it forms an excellent and most adhesive dressing. There is one extremely painful and unmanageable form of ulcer in which I applied it eight or ten days ago, at the Maternity Hospital, with perfect success. I allude to fissures at the base of the nipple. Most practitioners know well the agony that some mothers undergo, in consequence of this apparently slight disease; the ulcer or fissure being renewed and torn open with each application of the child. In two such cases I united the edges of the fissures, and covered them over with the solution of gun-cotton, making the layer pretty strong. It acted successfully, by maintaining the edges so firmly together that they were not again re-opened by the infant: the gun-cotton dressing was not, like other dressings, affected by the moisture of the child's mouth; and as a dressing, and at the same by securing rest to the part, it allowed complete adhesion and cicatrization speedily to take place. I have applied it also repeatedly to ulcers of the cervix uteri and over various cutaneous eruptions. Its application relieves at once the smarting of slight burns.

In a case in which Professor Miller lately removed a large portion of necrosed bone from the lower jaw, I dressed the lips of the incision with the gun-cotton solution, and it held them for some days subsequently accurately in contact till adhesion took place. In two minor amputations (one of the finger and the other of the toe), by the same gentleman, it was applied, but required to be removed in a day or two, in consequence of its retaining the discharges. I have made a number of experiments, with solutions in different menstrua, of various other substances besides gun-cotton, especially viscine, dextrine, caoutchouc, and gutta-percha.

Gutta-percha readily, I find, dissolves in chloroform. When a thin layer of this solution is spread upon the skin or any other surface, the chloroform rapidly evaporates, and leaves a film or web of gutta-percha, possessing all the tenacity and other properties of that substance. A layer of it, of the thickness of good writing-paper, has perhaps as much strength and tenacity as to hold the edges of a wound together, with all the required firmness and strength of sutures. When a film of it is placed upon the skin, and is allowed to dry thoroughly for a few minutes, the subsequent attempt to separate it is like peeling and tearing off the epidermis after erysipelas, &c. It then forms, as it were, at once a kind of artificial tissue, epidermis, or skin, which adheres strongly for a time. There is one disadvantage pertaining to it. In the course of a day or two it generally dries and crisps up, like court plaster, at its edges. If we could either increase its adhesiveness, or destroy its tendency to dry and crisp, we should render it more useful. I have seen the addition of a little caoutchouc apparently correct it in these respects.

The deposit or "plaster" left by the solution of gutta-percha is far more equable, smooth, and skin-like, than that left by the solution of gun-cotton.

A solution of caoutchouc in bisulphuret of carbon, ether, or chloroform, leaves a very thin, but perhaps less regular web, and one which stretches too readily for most practical purposes.

One great deficit in this class of dressings is the want of a menstruum sufficiently powerful, and, at the same time, not stimulating like ether or chloroform. This objection may, perhaps, in practice be got over, by applying an unstimulating solution of isinglass or the like to the raw surface, before applying the stimulating solution of the gun-cotton or gutta-percha. Or the first layer of gun-cotton or gutta-percha may be made very thin, so as to evaporate almost instantaneously, and then afterwards a series of superincumbent layers may be added till the web is of the required strength. Other better substances for solution may, perhaps, be found. But no material has a chance of succeeding, unless it be insoluble in water after it is consolidated, and unless it be sufficiently strong in its texture, and possesses powerfully adhesive properties.

[Dr. Simpson has forwarded to us the following addition to the report.]

P.S. Since the preceding observations were published in the Monthly Journal of Medical Science for July last, various attempts have been made by Messrs. Duncan, Flockhart, &c., to improve the manufacture of collodion or gun-cotton solution. For some time past they have thrown aside other formulæ, and use now only that of M. Mialhe (described in the present volume of the MEDICAL GAZETTE, p. 517). They find this formula by far the most simple and certain that they have tried. The sulphuric acid employed should be the commercial kind; as, when it is too strong and concentrated, it chars and blackens some of the cotton, making a dark instead of a transparent solution.

Edinburgh, Oct. 1st, 1848.

SOUTH LONDON MEDICAL SOCIETY.

JOHN HILTON, ESQ., President.

AT an ordinary meeting, held October 12th, Dr. HUGHES read a paper on

Pneumonia.

Dr. BARLOW commenced, by inquiring of the author what indications pointed out when calomel, or bleeding, or antimony, were the most suitable remedies, and under what circumstances were they most beneficial.

Dr. HUGHES considered that each individual case ought to be judged of by itself, and the cases just related were treated according to this rule. When the patient was young, stout, florid, and of full habit of body, there being no epidemic influence or hereditary disease, as tubercle, as in the case of the girl, bleeding was indicated and adopted, and the pneumonia entirely overcome on the following day. Antimony was indicated where bleeding was dreaded, and when there was that peculiar pungent dryness of skin alluded to by Dr. Addison. It was contra-indicated when the skin was moist, and when the patient was suffering from ague, or any miasmatic influence. Mercury was as equally a delicate remedy, but did not require for its employment so much discrimination, as it could almost always be controlled, which was not the case with antimony. It was indicated in pneumonia with effusion, where there was no tubercle, but it should be cautiously watched.

Dr. BARLOW agreed with Dr. Hughes in considering it impossible to lay down a decided rule. He considered that mercury was useful in the stage of consolidation bordering upon red hepatization, where there was increase of density without heat of skin or pallor of the lip, and where, in the neighbourhood of the dulness, there was some crepitation, and that antimony was useful in the earlier stage of the disease. The abuse of mercury was irretrievable; it was an error often fallen into, and generally attended with fatal results.

Mr. Robinson suggested that with regard to treatment, three special points should be attended to—1st, the constitution of the patient; 2nd, the cause of the disease; 3rd, its character. He considered the disease to be one of two conditions as regards the constitution of the patient—viz. the tonic and atonic forms: in the one, depletion was beneficial, and in the other it could scarcely be borne. The cases related by Dr. Hughes seemed to be of the atonic form, where bleeding could hardly be employed in the early stage, and where there was a great facility of checking the disease by antimony and blisters: as regards antimony, there was scarcely any case where it might not be used with impunity; it will even supersede the lancet. Mercury was also beneficial, and it was extensively used by him in the form of Hydr. c. Cretâ: it was objectionable in the scrofulous constitutions. There was another important remedy highly beneficial in the atonic forms of the disease, and when there was a miasmatic complication; this remedy was quinine, which acted not only by combating the cause, but also by giving tone to the vessels. Of the efficiency of this treatment he narrated a case in confirmation. In enumerating the physical signs in one of the cases, Dr. Hughes had adverted to the presence of pectoriloquy. He had always considered it to be indicative of a phthisical cavity, as taught by Dr. Davis, and he wished to learn from Dr. Hughes its explanation.

Dr. Hughes considered pectoriloquy to be one of the most fallacious and valueless signs of a cavity; it generally occurred in parts where there was consolidation around and more especially when the neighbouring tubes are large, and the walls of the chest thin. He believed that some persons had a natural pectoriloquy.

Dr. Addison stated that all the physical signs of phthisis may be produced in the apex of a lung affected with pneumonia, as he had already asserted in the Reports of Guy's Hospital; viz. "when pneumonia occurs at the apex of a lung, it gives rise to signs not distinguishable from a cavity in the lung." He coincided in Dr. Hughes's opinion, that pectoriloquy occurs where the lung is consolidated, but had never met with complete pectoriloquy in perfectly sound lungs. Pneumonia, he thought, might be confounded with simple continued fever, and so difficult of detection is it, that the most careful auscultators have been foiled and deceived. This point cannot be too much attended to, for Dr. Addison had met with many cases of pneumonia mistaken for fever.

The most important point of the author's paper was the treatment. He entirely agreed with him in considering the numerical system, or statistics, as a great and mischievous mistake, and so erroneous and beset with difficulties, that it ought to be discarded. Nothing was more apt than the remarks on the treatment put forth by Mr. Robinson: when pneumonia, occurring sporadically, assumes a well-defined character, it may in general be treated by the common principles, according to the age and constitution of the patient; but where occurring with peculiar epidemic influence, as influenza, and followed by a variety and diversity of symptoms, with a form of atonic fever, then the common remedies will not answer, and we must meet the difficulty, and regulate our practice accordingly.

Previous to the adjournment of the meeting, the President alluded to the subject of Cholera, which he said was of interest not only to the profession, but to the public at large; and particularly wished, should any cases occur on the Surrey side of the water, the medical practitioners would make the South London Medical Society the means by which they might be published to the profession. He hoped that the same plan might be adopted with the other societies in the metropolis, as, by such means, a better knowledge might be obtained as to the number of cases that have occurred, and of the different modes of treatment which had been had recourse to.

At the next meeting, Oct. 26th, Mr. H. K. Owen will read a case of "Laceration of the Liver."

MEDICAL SOCIETY OF LONDON.

Monday, October 16, 1848.

Mr. Hancock, President.

Bony Tumor of the Upper Jaw: Amputation of the Bone.

The President placed on the table the right upper jaw and malar bone of a young man, which he had lately removed. He had also been seen by Mr. Styles of Pinchbeck, and Mr. Mansell of Donnington, who, as well as Mr. Young, considered that the tumor was removable, and that its removal was the only resource. The particulars are as follows:—T. C., aged twenty-two, the son of a respectable farmer, residing at

Bicker, in Lincolnshire, was admitted under the care of Dr. Chowne and myself, into the Charing Cross Hospital, on Monday, October 1st, having been sent up by Mr. Young, of Gosberton, whose patient he was, suffering from a bony tumor connected with the maxilla. His friends state, that when about a year and a half old, he was found on the floor, supposed to be in a fit; when taken up, he appeared to be stunned, and the right side was slightly affected. No notice was, however, taken of it, and he quickly recovered from the immediate symptoms, but always afterwards complained of pain in the right side of the face, as far back as the ear. About two years after the accident, that side of the face was first noticed to protrude more than the other, and since then it has gradually enlarged, but more rapidly within the last three years. He has always complained of pain in the tumor, more particularly after it had been touched or examined. His general health has been pretty good, but he has not followed any employment on account of his appearance. He is rather deaf, but his friends do not think the deafness has increased with the enlargement of the bone, for which he has not been subjected to any treatment. He is much disfigured by the disease; a large tumor projects more than two inches forwards, and to the left side invading the nose, which it has flattened and spread, and turned completely to the left, so that the openings of the nostril, instead of being directed downwards, and in the medial line, are turned to the left side of the face, and directed forwards: the right nostril is completely filled by the tumor, except at its upper part, where, with a little difficulty, a curved probe may be carried over it; but the septum naris is touched, and pushed into the left nostril so completely, that a probe cannot be introduced between the septum and tumor along the floor of the nostril. The hard palate of the right side is thickened, and projects into the mouth, as it also does on the left side. The tumor not only extends forwards, but also towards the right side, generally implicating the malar bone, which is much thickened and enlarged, as is also the frontal bone at its external angle; the zymotic process remains natural; the right eye appears raised; the disease does not extend backwards towards the fauces, neither are the motions of the lower jaw at all impeded. The right side of his head is larger than the left, and the surface of the frontal bone presents prominences, thickening having taken place in those situations: his general health is good; he sleeps and eats well; his pulse is regular and quiet. A consultation having been held upon the case, and it having been considered non-malignant, and a proper one for operation, I, on Thursday last, assisted by Messrs. Avery, Canton, and Echlin, removed the parts which are now before the Society. The patient being secured in a firm chair, so that he could not slide away, Mr. Steggall, the house-surgeon, extracted the first incisor tooth of the left side, and I commenced the first incision below the tendon of the orbicularis palpebrarum muscle, and carried it downwards by the ala of the nose, directly through the upper lip, taking care to keep the point of the knife steadily against the bone, so that the soft parts were completely divided by the one cut. A second incision was then made inwards from the lobe of the ear to the ala of the nose; and a third from about an inch above the middle of the zygoma, directly downwards to the second incision. The flaps thus made was then reflected, the one downwards and the other upwards; the dissection of the latter being continued so as to expose the external angle of the frontal bone, which were found to be much enlarged and thickened, and the floor of the orbit, the attachment of the inferior oblique muscle of the eye being divided. The parts being thus fairly exposed, a cut was made with a saw obliquely downwards and backwards, from about a quarter of an inch above the root of the zygoma into the spheno-maxillary fissure; the ala of the nose was next reflected, and the ascending or nasal process of the superior maxillary bone cut through by strong bone forceps, as was the floor of the orbit: with a strong knife the masseter muscle was next detached from the zygoma, which was cut through by the forceps, and the patient was allowed a short time to recover from the chloroform, under the influence of which he had been placed for these more superficial steps of the operation: a very short interval sufficed. One blade of the bone forceps was then carried firmly backwards into the right nostril, the other blade being placed on the hard palate of the left side, and the palate was thus divided obliquely downwards and to the left, as I was desirous, if possible, to preserve the septum naris attached, and, at the same time, to remove the whole of the thickened palate. It required some little power to do this, but the forceps went through without much difficulty, although the parts were considerably thickened. As the bone still remained firm, and I could not detach it with my finger and thumb, I concluded that the malar bone had not been completely divided by the saw, and accordingly used the bone forceps in that situation, after which I could with ease depress the bone, and complete the operation by cutting through the soft palate with a blunt-pointed bistoury. The parts removed were the malar, the superior maxillary, and the palate bones.

The arteries were secured as quickly as possible, but some difficulty was experienced in securing the infra-orbital, which had shrunk back into its bony canal, and could not be tied; the bleeding, however, was arrested by plugging up the canal with lint, but the patient lost a large quantity of blood, and became very faint whilst the sutures were being applied; the flaps were very carefully brought together, and the patient placed in bed. The chloroform was administered to diminish the pain of the more superficial cuts: it was not only discontinued, but the patient allowed to become perfectly conscious before the palates, either hard or soft, were meddled with, lest any blood should enter the glottis and do mischief: he bore the whole operation with the greatest steadiness and fortitude. In the course of the evening he vomited twice, and brought up a large quantity of blood, which he had swallowed during the operation; he passed a restless night, notwithstanding he had an opiate draught; towards morning he became more quiet, and went to sleep for two or three hours. He has gone on since extremely well up to this time; the wounds in the face have almost entirely healed by the first intention. I have sawed through the jaw and tumor, to expose the structure of the latter. It appears to me to have originated from the antrum, and to have caused absorption of the body of the superior maxillary bone, excepting the hard palate and alveolar processes, and its malar process, which, with the malar bone, are much thickened, enlarged, and very hard, whilst the tumor itself is of a softer texture, very like the cancellated structure of bone. The parts removed weighed seven ounces and one drachm.

Dr. Waller related the case of a hermaphrodite at present under his observation in St. Thomas's Hospital: this gave rise to a discussion on the formation of monstrosities, but nothing offered itself for a report.

REMOVAL OF STAINS OF NITRATE OF SILVER.

Mr. Parsons, of Bristol, has recently recommended, for the purpose of removing stains produced by nitrate of silver, a solution of corrosive sublimate in muriate of ammonia. Where the bleaching properties of chloride of lime do not interfere, the stain may be washed with a solution of this compound, and the chloride of silver thus formed removed by a strong solution of muriate of ammonia.—*Lancet.* A solution of cyanide of potassium will also remove stains of nitrate of silver very readily; but when this or corrosive sublimate is employed, the skin or stained article should be speedily washed in water.

Correspondence.

WESTERN MEDICAL AND SURGICAL SOCIETY.

RESOLUTIONS RESPECTING CHOLERA.

The following resolutions were unanimously agreed to at a special meeting of the Western Medical and Surgical Society on the 13th instant:—

Resolved,—"That with the view of elucidating the history, and arriving at the true pathology and treatment of epidemic cholera, it is desirable that, *in every case* which may occur, the antecedent and attending circumstances, the symptoms of the disorder, and the appearances after death, should be accurately observed and carefully recorded; and that the adoption of a plan in which attention is called to the points chiefly to be noted, will both facilitate the labour to each observer, and will enable the reports of various observers to be the more easily analysed and compared."

Resolved,—"That in order to carry out the foregoing resolution within the sphere of operations of the Western Medical and Surgical Society, a plan be accordingly drawn up, of which copies shall be furnished to each member of the society and of the profession in the neighbourhood; and that it be an earnest recommendation to every individual to allow no single case to be unrecorded, but to forward the record of each case, as it may be completed, to the secretary of the society."

Resolved,—"That a committee be now appointed to draw up this plan, to collate the reports sent into the society, and to communicate the results in such manner as they shall deem expedient; that this committee have the power at any time to summon a general meeting of the society; and that it consist of the following members (of whom three shall be a quorum), Dr. Mantell, Mr. Lane, Mr. Woolley, Dr. Kinnier, Dr. Cormack, Mr. Haden, Mr. Synnot, Dr. Traquair, Dr. Barclay, Mr. Pollard, and Mr. Seaton."

The object which this society has in view is so fully set forth in the foregoing resolutions, that it does not appear necessary to enter into a very lengthened explanation. It is quite obvious, that if we can only obtain a faithful record of every case of cholera which may occur, the careful analysis and comparison of such records will not only yield us a complete history of the epidemic—perhaps *the* most complete history ever afforded of *any* epidemic,—but will, in all probability, lead to certain and positive results, throwing light on the pathology, and thereby on the rational treatment, of this fearful and hitherto obscure malady. The greater part of our profession is, however, so unceasingly occupied, and on that account so little in the habit of recording cases, that it would be scarcely possible to obtain from them the reports desired, unless their labours be facilitated by a plan in which attention is called to the various points to be noted. But with such a plan to help them, and with the good spirit which I know to prevail in the profession, the object in view does not appear to be difficult of attainment. The Committee of the Society is at this moment engaged with great care and anxiety in the preparation of this plan—on the fitness of which for its purpose, much depends; for it must be sufficiently simple to be easily understood and filled up—sufficiently comprehensive to comprise every thing necessary to be observed. As soon as it is matured it will be submitted, through you, to the profession—for imitation or for correction.

It it is to be remarked that epidemic cholera is a disease peculiarly favourable to investigation of the kind proposed. Frightfully fatal as it is to those whom it attacks, it does not, like influenza, invade the majority, or even a large proportion, of the population. Each practitioner is not overwhelmed, therefore, with a multiplicity of cases; and the phenomena in each case are of a striking and obvious kind.

The investigation which the Western Medical and Surgical Society is about to attempt within its own district (Chelsea, Pimlico, Knightsbridge, Brompton, Kensington, Putney, and Fulham) can only be carried out to its full extent by the zealous co-operation of the profession throughout the United Kingdom. Such co-operation can be easily brought to bear. The various Metropolitan Medical Societies—as the London Medical, the Wesminster Medical, the South London, &c. &c.—can, if they will, obtain returns, each within its own district, and tabulate and analyse them by committees of their own. In most large towns there are already societies capable of undertaking the same work: where such societies do not exist, let voluntary associations be made for the purpose. Even in villages and outlying places, let the record of every case, if cases occur, be kept, and let it be sent to the society or association of some neighbouring town, or to our own Society, if it be preferred, for tabulation and analysis. For it is one of the merits of this scheme, that by it a single isolated case—useful, otherwise, only as a means of experience to the individual observer—will have its scientific value.

In the discussion in our Society on these resolutions, a most useful suggestion was thrown out—that it would be desirable, if possible, in every district to have the post-mortem inspections conducted by the same person, one well familiar with morbid appearances. This, of course, cannot always be done; but in London and in large towns there must be many men well competent to the task, having sufficient leisure to undertake it, and sufficient zeal to make them glad of an opportunity of acquiring experience in a disease offering so wide a field for investigation and discovery.

I am induced to send these Resolutions and this letter to you without waiting till our plan of case-reporting is matured, because it is necessary that the attention of the profession should be stirred up betimes, unless they are willing to let this epidemic slip by, like the last, without drawing from it the scientific results it is capable of yielding. If a similar plan to this had been adopted in 1831-2, how much more positive and precise would our knowledge have been. At present no great deal of time has been lost. The cases which have hitherto occurred, undoubted cases as they are, can hardly be considered more than sporadic ones—the precursors—the merciful warnings of that outbreak which sooner or later will surely come.—I have the honour to be, sir,

Your very faithful servant,
EDWARD CATOR SEATON, M.D.
Hon. Sec. to the Western Med. and Sur. Society.

77, Sloane Street,
October 17th, 1848.

Medical Intelligence.

THE CHOLERA IN THE METROPOLIS.

No case of cholera was reported on Thursday in or around the metropolis.

There were, on Friday, three cases of cholera notified from Clapham, one from a vessel off Billingsgate, and one in the Millbank Penitentiary. It was also notified that one decided case of cholera had occurred at York, one case at Plymouth, one case at Ware, in Hertfordshire, and one case in the Isle of Portland.

Two cases of cholera were reported on Monday in the metropolis. Much sickness was reported to prevail amongst seamen who had been in the ports of the Baltic. One case was reported from Swansea and one at Rickmansworth.

On Tuesday, besides numerous cases of diarrhœa in the metropolis, 2 cases of Asiatic cholera were reported from the New Kent Road, 1 from Rosemary Lane, 1 from Sydenham, 1 case was reported from Sunderland, unconnected with the shipping; and two cases in the Bedford Union.

THE CHOLERA AT EDINBURGH.

The notification of cases at Edinburgh, up to the evening of the 23d of October, was as follows :—

"*Cases of Spasmodic Cholera authentically ascertained by the Surgeon of the Police since the 4th inst.*

Places.	Cases.		Deaths.		Recoveries.		Remaining.
	Since last report.	Since commencement.	Since last report.	Since commencement.	Since last report.	Since commencement.	
Edinburgh . .	10	80	5	55	—	7	18
Newhaven . .	1	30	0	19	—	5	6
Leith . . .	4	65	3	28	—	12	25
Total. . .	15	175	8	102	—	24	49

"GEORGE GLOVER, Surgeon of Police.

"Edinburgh Police Chambers, Oct. 23, 8 P.M."

THE CHOLERA IN THE HULKS.

Woolwich, Oct. 20.—A board of medical officers assembled yesterday at the Justitia convict-ship, which caused a delay of yesterday's return to a rather later hour. The number of cases returned up to 12 o'clock on Wednesday was 36 attacked, 10 deaths, and 5 recoveries. On Thursday there were 1 new case, 1 death, and 5 recoveries; making 37 attacked, 11 deaths, and 10 recoveries. From 12 o'clock yesterday to 12 o'clock to-day there have been no new cases, and consequently there are 37 cases of attack, and 12 deaths, 1 having died this morning, and 10 recoveries. The result of the meeting of the medical board, and an investigation of the cases on board the Justitia, is an order that the convicts are to be removed out of that vessel, and for the present will be hulked on board the Hebe and Sulphur, receiving vessels, opposite Woolwich Dockyard. The Justitia is also ordered to be removed from her present position, and will be stationed lower down the river, where she was formerly placed, or very nearly in the same spot, where the convicts were generally healthy. These excellent arrangements will no doubt soon relieve the convicts from any further fear of the cholera: the inhabitants of the town, and the convicts at the dockyard, having hitherto escaped the slightest symptoms of the disease.

ELECTION OF A MEDICAL OFFICER OF HEALTH FOR THE CITY.

AT a meeting of the Court of Common Council, on the 19th inst., a letter was read from Mr. Childs, one of the medical gentlemen returned by the Commissioners of Sewers to the Court as a fit and proper person to serve as medical officer, withdrawing himself as a candidate.

Mr. Simon was then elected by a show of hands.

The LORD MAYOR then congratulated Mr. Simon upon his election.

Mr. SIMON, in returning thanks for his election, said he felt overwhelmed by the honour conferred upon him, and the onerous duties it involved on the medical officer of health for the great city of London. In so difficult a position it would ill become him to do more than promise his endeavours, but those endeavours to the very utmost he did promise to exert in performing the very important duties of the office.

APOTHECARIES' HALL.

NAMES of gentlemen who passed their examination in the science and practice of medicine, and received certificates to practise, on Thursday, 19th October, 1848:—John M'Millan, Hull—Robert Webster Gillespie, Newcastle-on-Tyne—Robert William Ellis, Bristol.

Selections from Journals.

MIDWIFERY.

ACCIDENTAL EXPULSION OF A CHILD, WITHOUT ITS EXPERIENCING ANY INJURY FROM THE FALL.

A WOMAN of short stature, 34 years of age, strongly built, gave birth to a child in an ordinary labour one year after marriage. On the 10th July, being near the end of her second pregnancy, the period of gestation was accidentally terminated. She was engaged in a violent dispute with her husband, which was nearly coming to blows: she abruptly rushed into an adjoining room, and was in the act of sitting on the bed, when suddenly strong labour came on. Before she could reach the door and call for help, the pains became so severe that she was obliged to lean for support against a chair; at the same moment the child fell suddenly to the ground, without being in the least injured. On his visit, Dr. Pickford found not even a bruise on the vertex, on which the child had fallen. The placenta was expelled as he entered, and it showed that the cord had been ruptured at about the distance of two inches from the umbilicus. The child was strong, and fully developed. — *Dr. Pickford*, in *Henle's Zeitschrift für rationelle Medizin*, vol. vii. part i. p. 25.

X

THERAPEUTICS.

OBSERVATIONS ON TWO NEW FEBRIFUGES.

The forests which yield the cinchonas are gradually becoming exhausted: hence the price of these and of their salts is daily rising. These circumstances have directed the attention of practitioners to the discovery of substitutes for these expensive remedies. Thus, besides arsenious acid and salicine, the antiperiodic properties of which are well known, there are others whose operation has been less accurately studied: among these, two more particularly have been made the objects of investigation: they are the bark of the Baobab or Adansonia Dentata, and the sulphate of Phyllerine.

The *Baobab* or *Adansonia*, is a gigantic tree, indigenous to Senegal, but it is readily acclimated in colder countries, so that should its febrifuge properties become established, the bark will be procurable in abundance.

The bark, which is the most active part, has a tolerably smooth surface of a blackish-grey colour, and is studded all over with lichens: its inner surface is of a pure white, quickly reddening on exposure to the air: it contains a large quantity of mucilage, and has scarcely any taste or smell. Its aqueous decoction has somewhat the odour of the cinchonas: it is of a clear reddish colour, insipid, holding a large quantity of mucilage, the decomposition of which may be prevented by the addition of a small quantity of sulphuric acid or alcohol. Without this precaution the decoction becomes decomposed in a few hours; but, strange to say, this does not destroy its medicinal qualities. When cold and sweetened, this decoction is not unpalatable.

M. Duchassaing has found this bark highly serviceable in agues, even where quinine had failed; and he states that the planters of Guadaloupe cure their negroes by it alone, though, *à priori*, one would not expect that a mucilaginous bark, free from bitterness, should possess anti-periodic properties; while we see also from the effects of arsenious acid, that bitterness is not necessary to this medicinal action. Galberry and Frank have before stated that the fruit, and Adanson that the leaves, possess anti-periodic properties; but Duchassaing is the first who has pointed out that the bark is the most active part of the plant.

Sulphate of Phyllerine.—M. Jachelli, of Ferrara, has lately added this alkaloid to the list of febrifuges: it is obtained from the well-known evergreen shrub, *Phyllerea latifolia.* It was known, before the researches of Dr. Jachelli, as a cooling astringent, but it is now found to possess the same active anti-periodic properties as others of its class, the ash, the olive, &c.

An extensive series of experiments have been made since the year 1825, on the action of this alkaloid in agues, by Dr. Jachelli. He has compared its operation with that of—1st, a powder of the young leaves and twigs, in doses of 30 grains during the intermission; 2ndly, a simple decoction of the plant, made by boiling one part of the plant to 60 of water, down to one-third, and given in large doses also during the intervals; 3rd, with a compound decoction formed by adding 30 minims of dilute sulphuric acid to the preceding. The sulphate, in doses of from 12 to 15 grains during the apyrexia, has evinced its superior activity over other preparations of the phyllyrea: thus of 20 patients treated with the sulphate, 20 were cured; of 13 to whom the powder was administered, 11 were cured; of 18 to whom the compound decoction was given, 14 were cured; of 16 who took the simple decoction, 7 were cured.—*Bulletin Général de Thérapeutique*, July 18, 1848.

X

ON THE INSPIRATORY VOICE. BY M. SEGOND.

At the conclusion of a memoir on this subject, M. Segond remarks, that — 1. The production of the voice is not essentially dependent upon expiration, for man can speak and sing during inspiration. 2. In persons whose larynx is in good exercise, the inspiratory voice usually corresponds to the expiratory voice, consisting like it of two registers. In the inspiratory voice, however, the range of chest notes usually extends to a greater depth, and that of the falsetto notes to a higher pitch, than in the expiratory voice. 3. Pronunciation effected during inspiration is distinguished by a certain softness in the movements of articulation: many letters are altered, and the letter *r*, in particular, it is impossible to produce. 4. Ventriloquism is effected by speaking during inspiration. (In this opinion M. Segond differs from Müller and Colombat, both of whom consider that the peculiar modification of the voice in ventriloquism is produced by speaking with the mouth almost closed and motionless, while air is slowly expired through a very narrow glottis.) 5. Many of the domestic animals use the inspiratory voice. 6. In birds, the production of the voice during both inspiration and expiration explains the great variety and continuity of sounds observed, particularly in the singing birds. 7. The voice of some batrachians is exclusively inspiratory.—*Comptes Rendus*, 1848. Δ

DR. BELLINGHAM ON ANEURISM OF THE ARCH OF THE AORTA.

In reference to aneurism of the arch of the aorta, Dr. Bellingham remarks:—Out of twelve cases, the ascending portion of the arch was, or appeared to be, the seat of the disease in six instances; in three, the transverse portion of the arch was its seat; in two, the descending portion of the arch; and in one, the descending thoracic aorta. In ten of these cases the aneurism eventually formed a tumor, so as to be felt by the hand; in the other two it never approached the surface, but both these patients died suddenly.

Of these twelve cases, seven died, three left the hospital, and I have heard nothing of them since; two are still alive, and I see them occasionally. Of the seven who died, five were examined by me; in four of these the tumor burst; in one, externally under the pectoral muscle; in two, into the left pleura; in one, into the substance of the left lung: one died without any rupture of the sac.

In all the cases a double sound was audible on auscultation over the site of the aneurism; in two, a bruit de soufflet accompanied or replaced the first aneurismal sound; in one, the bruit replaced the second sound; and in one, both sounds were morbid. In the eight remaining cases, a double sound, exactly similar to that of the heart, was alone audible. A double impulse was only perceived in the cases in which the aneurism formed an external tumor, and not in all these cases.

Sex.—One patient was a female; all the rest were males: confirming the received opinion of the much greater frequency of the disease in the male than the female.

Age.—All the patients were adults; the youngest was aged 26, the oldest 60; five were between 30 and 40, two between 40 and 50, and three between 50 and 60.

Occupation.—Of these patients, four were labourers; two domestic servants (including the female); two were tailors; one was an attorney's clerk; one a carpenter; one a wine-porter; and one a painter.

Previous habits.—Four of these patients had led intemperate lives; the others could not exactly be said to have been intemperate.

Causes.—In three of these cases the disease was clearly traceable to an injury of the chest; in this category are included the youngest and the oldest subjects, both of whom had been intemperate. In two, a sudden strain seemed to have been the exciting cause. In one, the aneurismal diathesis was strongly marked, indicated by the patient having been twice previously the subject of spontaneous aneurism. In this case, as in one of the others, the heart, on examination, was found to be infiltrated with fat, which penetrated deeply into its tissue: this I have in several instances found to be an accompaniment of the aneurismal diathesis. In the six remaining cases there was no apparent cause to which the disease could be referred.

Pulse at the wrist.—In one case, the pulse at the left wrist was completely absent; the aneurism sprang from the transverse portion of the arch of the aorta, and the subclavian artery on that side was found, on examination, to have been completely obliterated by the pressure of the tumor. In another case, where the aneurism pointed upon the right side of the sternum, the left radial pulse was much smaller than the right. In another, where it compressed the trachea, the left radial pulse was stronger than the right. In the remaining cases no difference was perceived in the pulse at either wrist.

Pain.—Pain was the most frequent and the most constant of the local signs. In three cases it was the symptom which led principally to the diagnosis of the disease; in these cases likewise it was far more intense than in any of the others. In all, the pain was sensibly aggravated at night, and diminished or subsided more or less during the day. This I look upon as one of the characteristic marks of the pain in aortal aneurism.

Dysphagia.—Difficulty of swallowing was not a prominent symptom in any case: it was only observed when the aneurismal sac sprang from the transverse portion of the arch of the aorta.

Dyspnœa and cough.—Neither cough or dyspnœa were present in the cases in which the aneurism sprang from the descending portion of the arch, or from the descending thoracic aorta; while, for obvious reasons, they were the most prominent and the most distressing symptoms in the two cases in which the trachea was compressed, and where the sac arose from the transverse portion of the arch. In the cases in which the aneurism sprang from the ascending portion of the arch of the aorta, cough was more generally complained of than dyspnœa.—*Dub. Med. Press*, 1848.

BIRTHS & DEATHS IN THE METROPOLIS

During the week ending Saturday, Oct. 21.

BIRTHS.		DEATHS.		*Av. of 5 Sum.*	
Males....	592	Males....	503	Males....	581
Females..	574	Females..	480	Females..	573
	1166		983		1154

CAUSES OF DEATH.		Av. of 5 Aut.
ALL CAUSES	983	1154
SPECIFIED CAUSES	981	1149
1. *Zymotic* (or Epidemic, Endemic, Contagious) *Diseases*	393	270
Sporadic Diseases, viz.—		
2. Dropsy, Cancer, &c. of uncertain seat	47	52
3. Brain, Spinal Marrow, Nerves, and Senses	87	127
4. Lungs and other Organs of Respiration	102	222
5. Heart and Bloodvessels	29	38
6. Stomach, Liver, and other Organs of Digestion	52	67
7. Diseases of the Kidneys, &c.	10	12
8. Childbirth, Diseases of the Uterus, &c.	4	14
9. Rhematism, Diseases of the Bones, Joints, &c.	5	8
10. Skin, Cellular Tissue, &c.	8	2
11. Old Age	32	64
12. Violence, Privation, Cold, and Intemperance	17	32

The following is a selection of the numbers of Deaths from the most important special causes:

Small-pox	26	Paralysis	1
Measles	15	Convulsions	33
Scarlatina	147	Bronchitis	80
Hooping-cough	30	Pneumonia	41
Diarrhœa	23	Phthisis	103
Cholera	45	Dis. of Lungs, &c.	3
Typhus	65	Teething	7
Dropsy	15	Dis. Stomach, &c.	7
Sudden deaths	4	Dis. of Liver, &c.	3
Hydrocephalus	23	Childbirth	1
Apoplexy	18	Dis. of Uterus, &c.	1

REMARKS.—The total number of deaths was 171 *below* the weekly autumnal average. See page 720.

METEOROLOGICAL SUMMARY.

Mean Height of Barometer			29·63
" " Thermometer[a]			44·7
Self-registering do.[b]	max. 64·4	min.	31·
" in the Thames water	— 55·	—	46·

[a] From 12 observations daily. [b] Sun.

RAIN, in inches, 0·42: sum of the daily observations taken at 9 o'clock.

Meteorological.—The mean temperature of the week was about 1° below the mean of the month.

BOOKS & PERIODICALS RECEIVED

DURING THE WEEK.

The Homœopathic Treatment and Prevention of the Asiatic Cholera, by R. E. Dudgeon, M.D.

Chemistry no Mystery. Edited by Dr. Scoffern. 2nd edition.

Chart of the Public Health Act, 1848, 11 & 12 Victoria, Chapter 63. By C. E. Bernard, C.E.

Plain Rules for preventing and treating the Cholera. By R. Druitt, F.R.C.S.L.

Journal de Chimie Médicale, Octobre 1848.

Casper's Wochenschrift für die ges. Heilkunde. No. 39 and 40, 23 and 30 Sept. 1848.

Microscopic Anatomy of the Human Body. By A. H. Hassall. Part XIV.

Elements of Chemistry. By Thomas Graham, F.R.S. Part 3.

Clinical Lectures on the Practice of Medicine. By R. Graves, M.D. 2d edition. Edited by J. M. Neligan, M.D. M.R.I.A.

Register of Cases of Cholera professionally attended.

How to avoid the Cholera. By John Challice.

Clinical Midwifery. By Dr. Robert Lee.

The Idea of Life. By S. T. Coleridge. Edited by S. B. Watson, M.D.

Five Minutes' Common Sense about the Asiatic Cholera: intended for the unprofessional reader. By a Fellow of the Royal College of Surgeons, &c.

Proofs of the Authenticity of the Portrait of Prince Charles, by Velasquez.

The British American Journal of Medical and Physical Science. October 1848.

Oesterreichische Medicinische Wochenschrift und Medicinische Jahrbücher. July 1848.

On the Treatment of Ulcers on the Leg, &c. By H. T. Chapman, F.R.C.S. &c.

On the Influenza or Epidemic Catarrhal Fever. By T. B. Peacock, M.D.

Die medicinische Reform. No. 1 to 10.

Journal de Pharmacie et de Chimie. Oct. 1848.

NOTICES TO CORRESPONDENTS.

"A General Practitioner."—The plan pointed out is a common trick of quacks. It is an advertisement without the advertisement duty.

The letters respecting the Upton-on-Severn Union have been received.

Inquiry shall be made respecting the omission of the Hall lists for the 28th ult. and 5th inst.

Mr. J. Smith's (Coventry) remarkable case of early gestation shall be inserted.

The Memorial of the Poor Law Medical Officers was received too late for the present number.

RECEIVED.—Dr. Sloan, Mr. Henry Smith.

THE GENERAL INDEX.

We have to announce to our Subscribers that a GENERAL INDEX to the *first* 40 *Volumes* of the LONDON MEDICAL GAZETTE will, it is calculated, form a large Volume of about 700 pages. The cost of the INDEX VOLUME, respecting which many inquiries have been made, will be Twenty-four Shillings; and it is proposed to commence it so soon as the Names of *Five Hundred Subscribers* have been obtained.—The printers, Messrs. WILSON AND OGILVY, 57, Skinner Street, will receive the Names of Subscribers.

Lectures.

LECTURES
ON
PRETERNATURAL AND COMPLEX PARTURITION.

By Edward W. Murphy, A.M. M.D.
Professor of Midwifery, University College, London.

Lecture III.

PRETERNATURAL LABOURS: SHOULDER AND ARM PRESENTATIONS.

The mechanism of shoulder presentations—anterior dorsal positions—diagnosis and signs of shoulder positions—treatment. 1st. Cases that present no difficulty in turning—mode of operating. 2nd. Cases attended with difficulties from rigidity of the os uteri—the shoulder fixed in the brim of the pelvis, and the uterus strongly contracted about the body of the child—mismanagement—deformity of the pelvis. 3rd. Cases where turning is either impracticable or dangerous—tight stricture of cervix uteri—inflammation of uterus—evisceration.

Spontaneous evolution—Denman's explanation—Douglas's—decapitation.

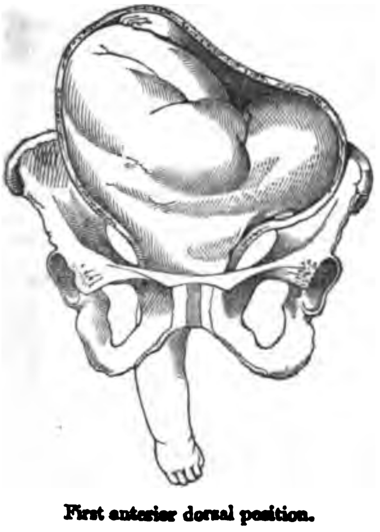
The next division of preternatural labours are those in which the shoulder and arm of the child occupy the pelvis. When this deviation unfortunately occurs, delivery, unless in some rare exceptions, can no longer be accomplished by the natural efforts of the uterus, and therefore the aid of the accoucheur is rendered imperative, in order to conclude the labour. The study of these positions demands the closest attention, because, whenever they are met with, you are obliged to turn and deliver the child, and to do so with promptitude, in order to preserve its life.

The mechanism of arm presentations, and their relation to the pelvis, should be thoroughly understood. A shoulder position may present itself at any time most unexpectedly, and if you are not previously prepared with an accurate knowledge of its nature, and the mode of delivery, no time is allowed to study it; you must proceed with the operation at once, or give it up altogether. If you are are sufficiently imprudent to persevere, and attempt to do that which you do not understand how to do, you become responsible to a most serious extent: such attempts have been followed by the most disastrous results, and have destroyed equally the life of the patient, and the character of the accoucheur.

The *shoulder and arm* may present in *four different ways.* Either arm may occupy the brim of the pelvis. The back of the child may lie either backwards or forwards. These four positions may (like breech presentations) be included in two divisions. 1st. *The anterior-dorsal position* of the shoulder, having (1st) the right arm or (2nd) the left presenting. 2nd. *The posterior-dorsal position*, subdivided in a similar manner, according as the right or left arm lies in the pelvic cavity.

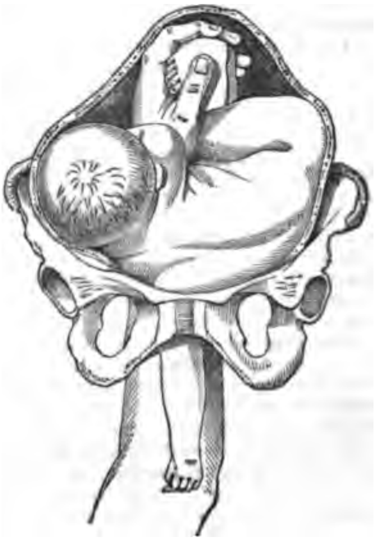
Anterior-dorsal positions are the most frequent, and the right arm, I think, presents oftener than the left. We shall consider this as the first position, and proceed to examine its relations.

Fig. 10.



First anterior dorsal position.

Fig. 11.



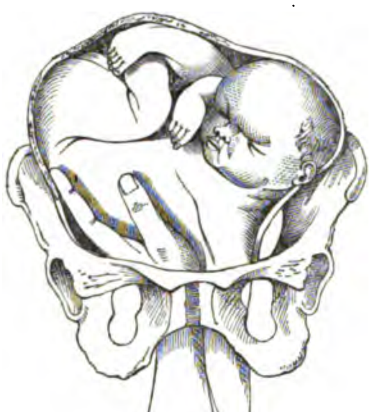
Second anterior dorsal position

In the first anterior-dorsal position the right arm and shoulder occupy the brim of the pelvis: the head of the child having the occiput forwards, rests in the left iliac fossa; the back lies obliquely across the lower segment of the uterus; the breech is upward and to the right side; the legs and remaining arm are collected together at the back of the uterus.

The second anterior-dorsal position is similar to the first, only that its relations to the pelvis are reversed; the left shoulder is in the brim of the pelvis; the head in the right iliac fossa; the breech to the left side; and the limbs at the back of the uterus.

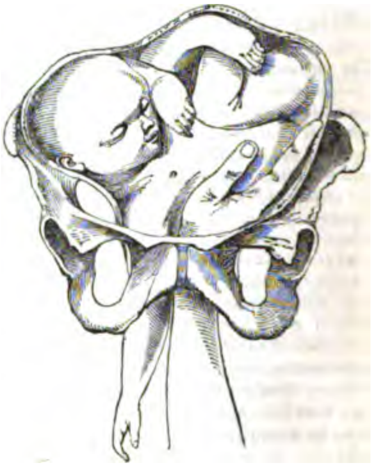
In the first posterior-dorsal position the left shoulder and arm present at the brim of the pelvis: the head, having the face forwards, rests in the left iliac fossa. The abdomen and limbs lie obliquely across the anterior walls of the uterus; and the breech is to its right side.

FIG. 12.



First posterior dorsal position.

FIG. 13.



Second posterior dorsal position.

The second posterior-dorsal position has the right shoulder and arm in the pelvis, the head in the right iliac fossa, and the breech to the left of the uterus, but, in every other respect, it resembles the first posterior-dorsal position.

Any of the positions may be met with, but the same manner of turning the child cannot be adopted with each indifferently. In fact, the ill success of this operation, and many of the accidents that have occurred in attempting to turn the child, might be fairly attributed to ignorance of its exact position. A kind of hap-hazard attempt is made to reach the foot: if it succeed, it is drawn forcibly out of its proper direction, and the difficulty of delivery is greatly increased. Thus in this protracted attempt the child is generally sacrificed, and sometimes even the uterus has been ruptured.

The *diagnosis* of any of these positions is easy, provided that the arm is sufficiently within reach to make a perfect examination of it. For this purpose it is necessary, as soon as the waters escape, to pass the fingers along the arm, as it lies in the vagina, as high as possible towards the shoulder, and then, as the fingers are being withdrawn, to supinate the arm as much as possible, and bring the hand of the child so placed outside the vulva. The examination of the hand will determine the position of the child in the uterus. The direction of the palm, whether it looks forwards or backwards, corresponds to that of the abdomen and limbs of the child, and the position of the thumb, whether it is to the left or the right side of the pelvis, will be the same as the position of the head. For instance, in the first position (anterior-dorsal) the back of the hand looks forwards toward the pubic side of the pelvis, and the thumb is on the left side; the back of the child is, therefore, anterior, corresponding to the abdomen of the mother, and the head rests in the left iliac fosse; the abdomen and limbs lie towards the back of the uterus. In this manner any of these positions may be ascertained with facility, provided that the membranes are ruptured, and the waters are discharged, when the operation of turning can be undertaken with the greatest advantage.

The *signs* that indicate arm presentations are sometimes observable even before labour commences. The shape of the uterus is altered: it no longer presents its oval form, but is irregular in its outline, as if divided into two tumors, a larger and smaller one. The stethoscope, also, proves a difference in the position of the fœtal heart: it is heard more towards the centre of the abdomen in the neighbourhood of the umbilicus, rather than in the iliac regions. As soon as labour commences, the pains go on for some time with tolerable regularity and strength, but no advance of the child is made: "they are doing no good," as the midwives say, although sufficiently powerful for that purpose. If a vaginal examination be made, the membranes are generally found to protrude through the os uteri containing the liquor amnii alone: sometimes the phalanges or a limb may be felt, but, unless the hand is quite within reach, it is difficult to determine the presentation. I have met with cases where the membranes occupied the mouth of the womb, where even a hand was touched, and after all, the head came down, and the woman was delivered in the usual manner. Lest such might happen to you, it is very necessary not to be too precipitate in sounding an alarm, and preparing for an operation that may not be called for. As labour proceeds, and the dilatation of the uterus advances, the presenting part descends more and more into the pelvis, and then it will be in your power to detect the arm, even through the membranes. An arm presentation being ascertained, no further vaginal examination should be made, unless the membranes are broken, and the waters are discharged, in which case it will be necessary at once to turn and deliver the child. The capacity of the pelvis, however, should be carefully examined, in order to determine the risk to which the child may be exposed in delivery.

The *treatment* of shoulder-presentations is fixed in all cases where the operation of turning may be performed with safety to the patient. Any question respecting it is only one of time—*when* the delivery should be undertaken.

Certain cases, however, fall under the notice of the practitioner, in which the safety of the patient is doubtful, and where it becomes a question whether such an operation can be ventured upon with propriety. Between these extremes there are many varieties of cases that present conditions which modify the treatment: we shall, therefore, consider separately the treatment of—1st, cases that present no difficulty in delivery by turning; 2nd, cases that are attended with difficulties to a greater or less extent; and 3rd, those cases where the operation of turning becomes too dangerous to be undertaken.

1st. *Cases that present no difficulty in the delivery*, must be understood to embrace those that the practitioner has had the opportunity of observing from the commencement of labour, where there is no rigidity of the os uteri, nor contraction of the pelvis, to interfere with a successful issue, and in the management of which, the only question he has to consider, are the *time* and the *mode* in which the operation should be performed. If there be any difficulty in the delivery, it must be one of his own making.

The *time* best adapted for turning is when the os uteri is fully dilated, or nearly so; if the dilatation be incomplete, there is always a risk in the extraction of the head: the limbs and body may be brought through the os uteri, but there may be great difficulty in overcoming its resistance so as to allow the shoulders and head to pass, during which interval the funis is compressed, and the delay causes the death of the child; besides, the cervix uteri may be torn in the attempt, and the life of the mother hazarded. It would not, therefore, be advisable to interfere before the mouth of the womb was sufficiently open to prevent any risk of this kind. For this reason, also, it is better not to rupture the membranes prematurely for the purpose of turning, because so long as they are preserved the liquor amnii dilates the os uteri more efficiently than the presenting part could, and this advantage is more effectually secured: but whenever the membranes give way, and the waters are discharged, the hand must be passed into the uterus in order to deliver, lest its fibres should contract strongly on the body of the child, and increase the difficulty of the operation.

The *time*, then, to interfere should be whenever the os uteri is quite dilated, whether the membranes are broken or otherwise, or when the waters are discharged, although the os uteri may not be quite dilated. In the latter case the danger to the child is obviously increased.

The *mode of delivery* requires your attention, in order to avoid the errors that are frequently committed in this operation. The first step is to determine the exact position of the child: the moment, therefore, that the waters escape, the hand of the child should be brought down and examined. When the position is ascertained, the practitioner can judge which hand is the most convenient to introduce for the purpose of turning. In general it will be found more easy to turn with the same hand as that presenting in the vagina. If the right arm of the child descend, the right hand should be used in delivery; and so with respect to the left. You can readily determine this point by grasping the hand of the child, applying palm to palm, and if the thumb of each hand lie on the same side the hands are the same. Let, then, the presenting hand be held with one hand, while the other is passed along the arm of the child to the the axilla, and then directed over the thorax to the abdomen. The feet and remaining hand are generally found here so intermingled, that it is by no means easy (at least to the inexperienced) to distinguish the foot; the advantage, therefore, of previously acquired tact is here particularly obvious: but when there is a doubt whether the hand or foot is seized, it may be removed by grasping the phalanges: if they can be closed, it is the hand, if not, being the foot, it should be held firmly, but no attempt as yet made to turn. If you should proceed at once to draw down the foot there is a great chance that it may slip from the fingers, and not be so easily found again: it is preferable to get not only the foot but as much of the limb as possible within the grasp of the hand before it is drawn down; by this means, also, more power is gained. I entirely agree with Dr. Radford, that it is quite unnecessary to find the second foot before turning, because one limb is sufficient for the purpose, and in searching for the second there is some risk that you may lose the first; it is even possible that you might seize the foot of a second child: an advantage is also gained by leaving one foot in the uterus—the child, when turned, presents in a semi-breech position, which is more favourable for the purpose of delivery than if both feet were brought down into the vagina. When the limb is seized firmly, and traction is made in the intervals of pains, the child revolves quite easily in the uterus: the leg is brought into the vagina, and the remainder of the delivery is completed as in a breech or footling case; but you should recollect that there is nothing left to Nature here,—it rests entirely on your skill whether the child descend through the pelvis correctly or otherwise: observe, therefore, the direction of the foot,—that the toes are directed backwards; you should watch the funis, and bring it down when it comes within reach, and take care that the fundus uteri is compressed while the child is being withdrawn. In this manner, if the operation be undertaken with sufficient promptitude, and time is not unnecessarily lost in going through it, the child is generally saved.

When the hand is passed into the uterus, immediately after the membranes are broken, its fibres yield very readily; nevertheless, it is necessary to avoid irritation as much as possible, and hence, while passing the hand upwards, if a pain return, it is better to rest until the uterus again relaxes; thus, as it were, stealing the hand into the uterus in the intervals of the pains. If an opposite course be pursued, the introduction of the hand might excite strong uterine contractions, and thus the resistance to any attempt to force the hand upwards would be greatly increased: the fingers become benumbed, sensation, which is so necessary, is lost, and there is even a hazard that the uterus might give way. Ruptures of the uterus are said to have been caused by the projecting limits of the child, when its parietes (we presume) had been previously weakened by some morbid alteration of structure. How much more likely is such an accident to occur when the knuckles are pressed against the sides of the uterus, strongly contracted upon them! Make it a rule, therefore, *never to force* the hand into the cavity of the uterus, but to advance cautiously, pressing forward when the uterus yields, and ceasing to do so the moment its contractions return. When the child is turned, the more rapidly it is extracted the better chance there is of saving it.

2d. *Cases attended with difficulty in turning* are generally those in which the membranes have been some time ruptured before the operation is proceeded with. This might happen when the *os uteri is rigid*, the waters having escaped early in labour, before the mouth of the womb is sufficiently dilated to admit the hand. Or, in consequence of inattention on the part of the attendant, or other cause of neglect, the shoulder may be allowed to remain in the brim of the pelvis for hours unobserved, the attendant not being aware of the nature of the labour. Had he known it in time there might have been no difficulty in turning, but now it is too late, the waters have been a long time discharged; *the shoulder is fixed in the brim, and the uterus is strongly contracted about the body of the child.* In either case, in consequence of the body of the child causing much more irritation than the fluid which had surrounded it, the action of the uterus is increased, stronger pains return again and again, but are inefficient for the purpose: the result is, that spasmodic contractions of the uterus may be excited, and its fibres surround the uterus so closely as to render the introduction of the hand a matter of great difficulty. Sometimes inflammation of the uterus has taken place, an effect still more dangerous to the patient.

The *treatment* of such cases is by no means so simple as that of the former class. If you were to proceed at once to turn, difficulties would oppose themselves in every step of the operation. The resistance of the uterus to the introduction of the hand—the danger of using too much force—the effect of compression on the fingers rendering them insensible and almost powerless—the extreme exertion required, and consequent exhaustion of the operator; all these impediments meet you, and would perhaps render the attempt abortive. La Motte relates that an operation of this kind nearly cost him his life. "Je crus très certainement que je mourrois après cet accouchement, ou j'épuisai et ma science et mes forces et après lequel je restai sans respiration; en sorte *qu'il me fallut mettre sur un matelas devant un grand feu et me frotter avec des lignes chauds pendant plus d'une heure.*"* Smellie, also, after such an operation, says, "I never was more fatigued; I was not able to raise my arms to my head for a day or two after this delivery, and one of the gentlemen who was present was so much frightened that he resolved never to venture on the practice of midwifery."† You would not desire such scenes as these, and therefore it would be advisable to reduce as much as possible the causes of difficulty: some preliminary treatment is therefore required. The first object is to determine the existence of inflammation: if the passages are hot and tender—the os uteri swollen and painful—the uterus very hard, intolerant of the least pressure, and irregular on its surface; if the pulse be increased in frequency, with dry tongue and great thirst; you cannot interfere until all these symptoms are subdued, and even then the manner in which the patient is delivered becomes a question of serious consideration. Inflammation may not be present, but the uterus is strongly contracted about the body of the child; spasmodic pains frequently return with great agony to the patient, who is irritable and anxious: the pulse is quick, and a certain amount of nervous irritation is excited. All such symptoms must be relieved, and the best means of doing so is by a free depletion from the arm, followed by nauseating doses of tartar emetic in combination with opium. If any inflammation be present, the proportion of tartar emetic may be increased. If spasm, with nervous irritation, opium may be given largely. By such means the os uteri will be rendered more dilatable, the pains more regular, and attended with much less suffering.

The operation may now be undertaken. The arm being stripped and greased along the back, the fingers in a conical form may be introduced into the vagina, and within the os uteri: there may be still some difficulty in pressing the shoulder back, but by caution in acting only during the intervals of the pains, and with some patience, you will succeed in getting the hand into the cavity of the womb; great care is now necessary while pressing it forward to avoid irritation: the moment a pain comes on the hand should be kept flat on the body of the child, and advanced only when the uterus relaxes; take as your motto, "arte non vi," and trust to time, rather than force, for effecting your object. When the foot is reached the remainder of the operation is generally, although not always, easy. Sometimes, however, it is both difficult and fatiguing—difficult to gain and to distinguish the foot, and often requiring great exertion to overcome the resistance of the uterus. The long-continued pressure, also, on the body of the child and the funis places its life in great hazard, and therefore it is extremely doubtful whether the child can be saved.

Our chief attention should be directed to preserve the mother from injury; consequently, when the os uteri is rigid, and slow in dilating, no attempt should be made to turn until the dilitation is somewhat advanced: no effort should be made to force open the os uteri in order to save the child, because it is very probable that you would not only fail in your object, but also do such injury to the uterus as would endanger the life of the mother also. These are cases in which I think that the new anæsthetic agent, chloroform, is so valuable. I have used it under circumstances nearly similar, and have found it of infinite use in relieving me from the embarrassment of the patient's irritability, and herself from much suffering.

Mismanagement may cause great difficulty in turning. I have been called to cases where an unsuccessful attempt was made to deliver the child, and the second arm by mistake brought into the pelvis: the presenting shoulder still occupied the brim, where it was so firmly maintained by the uterus that it was impossible to push it back. In such instances a full opiate was given, to allay nervous irritation, and while the patient was under its influence the hand was cautiously introduced into the vagina to the shoulder. Here there was some difficulty in advancing, not only because of the shoulder, but the arm that was brought down. The arm, however, was pressed back, and thus room was given for the hand to enter the cavity of the uterus. By advancing cautiously in the intervals of the pains, the foot at length was reached. The greatest difficulty, however, still remained. Easy as turning the child generally is, it is particularly difficult in such a case as this. There is very little room, and consequently very little power to act, when the shoulder so occupied the pelvis: the limb that is seized cannot be drawn down completely, and it is equally impossible to pass the second hand into the vagina, for the purpose of pushing up the shoulder. The only resource, therefore, is to fasten a noose of tape on the ankle of the child, so as to secure it, and draw it down, while an effort is made by the introduced hand to press up the shoulder. If the foot can be brought into the vagina, the noose may be formed on the wrist of the arm that holds the foot, and slipped along the hand and over the foot by two fingers of the second hand. But if the foot is still in the uterus, where the fingers cannot reach it, I think a convenient means of effecting this object might be adopted by taking advantage of Mr. Steeven's catheter for replacing the funis. Let a loop be formed on the arm in the same manner, and having the ends sufficiently long to be held by an assistant. The loop can then be attached to the catheter, and pushed along the arm into the cavity of the uterus. When the noose is fixed, the assistant can draw the ends tightly, so as to secure the foot. The hand may now be brought down with the foot as far as it will go, and then, holding the tape firmly, one hand may be withdrawn from the uterus, while the opposite passes into the vagina, for the purpose of pushing up the shoulder, and thus turning the child. Some adroitness is required in this manipulation, but if done carefully, and without violence, you will generally succeed safely. Be cautious also that the tape may not slip from the foot, because if so, you would have to go over the whole process again. Knowing the value of chloroform in allaying the irritability of the patient, and rendering the passages dilatable, I think it would be also of great use in such a case as this.

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* La Motte, Observ. 262, p. 467.

† Smellie, vol. iii. p. 243, Case III.

Deformity of the pelvis sometimes causes difficulty in delivering the child. It is not easy to pass the hand through the pelvis; it is equally difficult to seize the foot when the hand and arm are confined in so limited a space; and if you succeed in turning the child, there yet remains the greatest difficulty —the extraction from the pelvis. Great force is often used for this purpose: the body and shoulders are generally safely delivered, but the head becomes impacted. To remedy this, the fingers are placed, if possible, in the mouth of the child, if not, round the neck in front, while the back of it is seized by the opposite hand, the body perhaps held by an assistant, and a combined and powerful tug made to extricate it. The shock generally destroys the child; sometimes the odontoid process of the vertebra dentata is broken off. There is no object in using all this violence, because it cannot accomplish the only purpose that could justify it—the safety of the child; a more patient method will answer the purpose much better. When the head is thus arrested, and the funis pulsates, the first object is to secure it from pressure, and in a pelvis of this kind (the ovate pelvis) it may easily be placed at either side of the projecting promontory of the sacrum, which will, to a certain extent, protect it, and thus give time for the extraction of the head, which may often be effected by the hands alone. One hand may be passed up over the face to the forehead, so as to press the head down well on the chest, and the other applied to the neck; if a steady extracting force is then used, renewed at intervals, but without jerking or violence, it will succeed. The vectis may be applied over the forehead in place of the hand, but I do not think it answers so well. If your first efforts fail, do not despair so long as there is circulation in the funis; let the patient rest before a second trial is made to extract, and provided the funis is safe, no injury can arise to the child from leaving the head fixed in the brim for a short time: how often does it remain thus for hours in a difficult labour? During this interval the patient may be given an opiate, or, what I think is better, some chloroform. When she is refreshed by rest, and the passages relieved from the irritation of your first efforts, you may again attempt to extract as before. If this fail, we have no other resource than to perforate behind the ear or through the mouth, as soon as the pulsation in the funis ceases; but if the means we have recommended be managed with judgment, you will not, unless in extreme cases, have to perforate.

3. *Turning may be impracticable or dangerous.*—For instance, the uterus may be so spasmodically contracted about the body of the child, that the hand cannot be introduced; a stricture is formed at the junction of the cervix and body of the uterus, which no reasonable effort can overcome, nor any general treatment relax: some other mode of delivery must therefore be adopted. The only practical means of delivery is *evisceration;* that is, to perforate the thorax at the axilla, and with the crotchet to remove the contents of both the thorax and abdomen: the body being thus reduced, the crotchet can be hooked on the vertebral column close to the pelvis, and the breech and limbs brought down through the stricture. It may be necessary to perforate the head also behind the ear, in order to extract it. There is no operation in midwifery more troublesome to perform, or more disagreeable to look at, than evisceration: we have naturally an instinctive repugnance to tear away the infant piece-meal in this manner; still, in the case supposed, it must be done, there is no alternative, and unpleasant as it is, this operation is much safer, and better calculated to preserve the uterus from injury, than making violent efforts to force the hand into it for the purpose of turning the child. After one or more such unsuccessful attempts, you are compelled to desist, greatly fatigued by the exertion, and the uterus being so much exposed to irritation from this violence, may become the seat of serious inflammation afterwards.

Inflammation of the uterus, if severe, would render turning impracticable, because one of its effects is softening of the fibrous structure of the uterus, which may give way when the hand is strongly pressed against it, in the effort to reach the feet of the child: thus the uterus may be ruptured. This has happened more than once without the true cause being assigned for it; the practitioner may have been blamed for undue violence, but it is far more likely that he was to blame for want of caution in undertaking the operation at all under such unfavourable circumstances. You should therefore be on your guard against a mistake of this kind. If such inflammation exist, it should be subdued by general antiphlogistic treatment, and the child removed by evisceration.

Inflammation of the uterus seldom occurs in arm presentations unless in very neglected cases, when the waters have been long discharged, and the uterus, irritated by its own fruitless efforts, is strongly contracted upon the body of the child. The presenting arm is greatly swollen, perhaps putrid, as the child is usually dead for some time previous; the passages are hot and tender, the uterus very irregular in its shape, and painful to the touch, and the patient in a high state of irritative fever. Even if you succeeded in turning the child under such circumstances, no useful object could be gained by it; but when you reflect on the difficulties before you, that success is more than doubtful, serious injury to the uterus almost certain, and its laceration a very probable result, you would not venture upon so imprudent an operation. The child can only be removed by evisceration, and as it is frequently putrid, and the bones very loose, great care is necessary in extracting the head, lest it separate from the spine, and remain behind in the uterus.

Spontaneous evolution, or the natural turning of the child, sometimes takes place. It is difficult to conceive it possible that a full-grown child could be forced crosswise through the pelvis; nevertheless, such has happened,—even children have been born living in this manner. The natural delivery of a cross-birth was first noticed by Denman,* who called it "*spontaneous evolution.*" "As to the manner," (he observes) "in which this evolution takes place, I presume that, after the long-continued action of the uterus, the body of the child is brought into such a compact state as to receive the full force of every returning action. The body, in its doubled state, being too large to pass through the pelvis, and the uterus pressing upon its inferior extremities, which are the only parts capable of being moved, they are forced gradually lower, *making room as they are pressed down for some other part into the cavity of the uterus which they have evacuated, until, the body turning, as it were, upon its own axis, the breech of the child is expelled as in an original presentation of that part.*"* Some time after this explanation had been given, and generally received by the profession, Dr. J. C. Douglas, of Dublin, met with seven instances in which the natural delivery took place, and in none of them did he find anything like a spontaneous evolution of the child. Comparing his own observations with Denman's cases, he found them agree in the facts stated by Denman as to the mode in which the body is forced into the pelvis—"that the shoulder of the child is forced very low in the pelvis, and that the thorax occupied so much of its cavity as to preclude the practicability of the hand of the accoucheur being passed into the uterus for the purpose of turning."† But Dr. Douglas differs completely as to the manner in which the child is expelled, and prefers the term *spontaneous expulsion*, as being more expressive of the facts. He says—"The fact, however, is, that the shoulder and thorax thus low and impacted, instead of receding into the uterus, are at each successive pain forced still lower, until the ribs of that side corresponding with the protruded arm press on the perinæum, and cause it to assume the same form as it would by the pressure of the forehead in natural labour. At this period, not only the entire of the arm, but the shoulder, can be perceived externally with the clavicle lying under the arch of the pubis. By further uterine contractions, the ribs are forced more forward, appearing at the os externum as the vertex would in natural labour, the clavicle having been by degrees forced round on the anterior part of the pelvis, with the acromion looking towards the mons veneris. But, in order to render as clear as possible the successive movements in this astonishing effort of Nature, I will endeavour to describe still more precisely the situation of the fœtus immediately prior to its expulsion. The entire of it somewhat resembles the larger segment of a circle: the head rests on the pubis internally; the clavicle presses against the pubis externally, with the acromion stretching towards the mons veneris; *the arm and shoulder are entirely protruded*, with one side of the thorax not only appearing at the os externum, but partly without it; the lower part of the same side of the trunk presses on the perinæum, with the breech either in the hollow of the sacrum or at the brim of the pelvis, ready to descend into it,

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Denman, 328 (Ed. 8vo. Lond. 1824).

* Denman, p. 327.

† An Explanation, &c. &c. of Spontaneous Evolution, p. 25, 3d Ed. Dublin, 1844.

and, by a few further uterine efforts, the remainder of the trunk, with the lower extremities, is expelled.

"And, to be still more minutely explanatory in this ultimate stage of the process, I have to state that the breech is not expelled exactly sideways, as the upper part of the trunk had previously been; for, during the presence of that pain by which the evolution is completed, there is a twist made about the centre of the curve at the lumbar vertebræ, when both buttocks, instead of the side of one of them, are thrown against the perinæum, distending it very much; and immediately after, the breech, with the lower extremities, issues forth, the upper and back part of it appearing first, as if the back of the child had originally formed the convex, and its front the concave, side of the curve."*

This explanation of the natural delivery of shoulder presentations has been confirmed by Gooch, Ramsbotham, and other practical writers: it coincides also with the facts that have fallen under my own notice; nevertheless, I am inclined to think that spontaneous *evolution*, in the strict sense of the term, sometimes occurs. I have met with cases where the arm presented and occupied the os uteri completely, but afterwards it retreated, and the breech descended in its place. The united testimony of the profession confirms the description of Douglas, which, therefore, may be considered as the manner in which this *spontaneous expulsion* of the child takes place. But, knowing the confidence that may be placed in Denman's fidelity as an author, I am satisfied that spontaneous *evolution* also sometimes happens. I think that it is very likely, when the child is full grown and living, that the shoulder, in the intervals of the pains, might gradually leave the pelvis if the body was forced down into it by the action of the uterus. These cases are very rarely met with; but, when they do occur, how are we to manage them? Is it better to interfere, or to leave it all to Nature? If the action of the uterus were powerful, and that the body were advancing, I should adopt the latter course, my only interference being to support the perinæum against the strong pressure acting against it. But if the process was retarded or difficult, a blunt hook might be passed over the body of the child above the pelvis, to assist its advance. If this fail, the child should be removed by evisceration, because when the body is thus forced into the pelvis, and the uterus is strongly contracted on it, an attempt to force the hand into it for the purpose of turning would be very dangerous. It is most probable that you could not do so, and there would be great risk of laceration if much force were used.

Decapitation of the child is still practised in some cases where turning is impracticable. This operation has been performed since the time of Celsus, and now remains as a kind of relic of those mutilations of the child which were had recourse to in order to deliver a cross-birth, before the operation of Ambrose Parè. I confess that I have never met with a case of arm presentation in which decapitation was indispensable; and, therefore, I may not properly appreciate the difficulties that it is intended to overcome. Under any circumstances that I have met with, it was far easier to perforate the thorax than to decapitate the child; but, even if it were equally easy, it seems to me liable to some objections from which the former is free. When the head is separated, the body, it is true, may be easily removed; but how is the head to be delivered? If the operation be performed because the pelvis is contracted, the extraction of a loose unmanageable mass through it would appear to me a matter of no ordinary difficulty. We would not think of it if the head were retained in the womb by a stricture of the cervix, because then the head would have to be removed like the placenta in an hourglass contraction of the uterus, and you can easily imagine what kind of operation that would be. I cannot readily picture to myself a case requiring decapitation; but, as it has been performed by men of extensive practical experience with success, it would be improper to allow these objections to outweigh facts. The late Dr. Davis and Dr. Ramsbotham have both decapitated the child. The late Dr. Ramsbotham invented an instrument for this purpose—a hook, having an internal cutting edge and a long shaft, which was fixed in a wooden handle of the usual length. The manner of using it is thus described by Dr. Ramsbotham:—"The finger having been passed around the neck, a large-sized blunt hook must be introduced upon it, and the presenting part must be brought as low into the pubis as is consistent with the woman's safety. An assistant must then steady the blunt hook: the decapitator must be directed over the neck by its side; and, the first adapted instrument having been withdrawn, a sawing motion must be given to the cutting-hook by the right hand, while the first finger of the left is kept steadily in contact with its blunt point. It will soon be found that the structures give way, and that the separation is effected. The child's body must then be drawn out by whichever arm may protrude, and the head extracted by a crotchet or blunt hook introduced into the foramen magnum or mouth; nor will its removal *generally* offer much difficulty, *unless the pelvis be*

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* Douglas, op. cit. p. 25-27.

contracted in its dimensions."* Such is the operation, which we may presume presents some little difficulty when the pelvis is contracted; and if it be not contracted, and such mutilation is necessary, I think evisceration much easier and safer to perform. Both operations are equally to be avoided; but if we are compelled to undertake either, I should prefer that which is attended with the least risk.

Original Communications.

CASES OF PNEUMONIA, VARIOUSLY TREATED;

WITH BRIEF OBSERVATIONS.

Read at the South London Medical Society, Oct. 12th, 1848.

By H. M. Hughes, M.D.

Assistant Physician to Guy's Hospital, and late President of the Society.

[Continued from p. 704.]

Case VI.—*Pleuro-pneumonia, extensive and severe, with delirium, &c.—Influence of antimony.* (From the admirable Report of Mr. Hodson.)

E. E., aged 22, admitted into Spare ward, under my care, Dec. 8th, 1847. He was a bricklayer's labourer, and had been in Samaritan ward for five weeks for syphilis, of which he had been quite cured. He had previously enjoyed good health. Five days ago he was seized, two or three hours after dinner, and when feeling quite well, with violent vomiting, succeeded by chilliness and nausea, which were followed during the night by rigors, heat of the surface, and pain of the head. On the following morning he complained of a slight stitch below the right nipple. He was cupped, and took some saline medicine by order of Mr. Stocker, the resident medical officer, but without any relief. On the next day the pain became exceedingly acute, and prevented deep inspiration, but was unattended with cough. A blister was applied, and rose well. The next day he had a harsh, dry, short cough, with some hurry of the respiration, which added to his general suffering—Ordered: Pil. Antim. Opiat. fort. (containing Opii, gr. j.) c. Hydrarg. Chlorid. gr. ij.—The day before he was submitted to my care the pain and distress had greatly increased in severity, and he was bled to the amount of ℥viij., but without relief. When first seen by me his condition appeared to be very unpromising. The distress of breathing was great; the eyes were staring and wildly rolling, and the countenance flushed, but at the same time pinched and anxious; he wandered when left to himself, but correctly answered the questions addressed to him. The skin was dry, hot, and pungent; the tongue dry, and covered with a thick brown coat; the lips dry, parched, and cracked; the respirations 32 in the minute, short, gasping, hurried, and mainly abdominal; the pulse 112, tense and small. He complained of pain in the head, and of acute laminating pain in the right side, increased on coughing, deep inspiration, and decubitus on the affected part. He had *very little cough, and no expectoration.* His very little sleep was disturbed by dreams. Upon inspection of the chest, the ribs were found to be very slightly raised upon inspiration, and the breathing to be almost entirely abdominal. Percussion elicited a dull sound from the nipple downwards anteriorly, and from the centre of the scapula downwards posteriorly. Upon auscultation below the nipple, no respiratory murmur was audible, but a loud and harsh pleuritic rubbing; while above that point a slight muco crepitating rattle existed. Posteriorly, at the upper part, existed marked tubular breathing, and at the lower part, no respiration of any kind could be heard; while œgophony and bronchophony, or a combination of the two, were to be heard throughout nearly the whole of the back part of the side. On the left side the breathing was pure, but puerile—Ordered: Emplast. Cantharid. magn. lateri dextro; Hydrarg. Chlorid. gr. j.; Antim. Potassio-tart. gr. ⅛ 3tia quaque horâ c. Mist. Salinâ; Pil. Antim. Opiat. fort. c. Hydrarg. Chlorid., gr. ij. horâ somni.

9th.—Had been very violent, raving and blaspheming during the night, and got out of bed, so that it was necessary to confine him. The face was flushed; the eyes staring and wandering; the skin and tongue as before; pulse 140, small and contracted. Physical signs unchanged. An additional grain of opium had been administered, by order of Mr. Stocker, late in the evening, but without any good effect.—Rep. Pulv. c. Antim. Potassio-tart. gr. ss.; Cont. Mistura; Rep. Pil. horâ somni.

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* Ramsbotham, p. 453.

10th.—Was delirious during the whole night, but, though heavy and dull, was quiet this morning, and answered correctly the questions addressed to him. The countenance was less wild and anxious; the tongue still thickly coated with brown fur, but slightly moist; the skin warm and perspiring; the pulse 100, more expanded and compressible; the cough was still very trifling, and he had no expectoration. He had passed his water and motions in bed, and the latter, four or five in number, contained some blood and mucus. The anterior pleuritic rale was less distinct, and heard only occasionally. Over the lower two-thirds of the chest posteriorly was now audible small crepitating rattle; tubular breathing existed above the spine of the scapula, and distinct œgophony below it. The dulness on percussion, both before and behind, remained as before.—Rep. Pulv. 4ta quaque horâ, et cum singulis pulverib. capt. Mistur. Cretæ, ℥iss.

11th.—Passed a quiet night, but appeared stupid and deaf in the morning. No pleuritic rubbing, but in its place slight crepitation was now heard anteriorly as well as posteriorly. Pulse 96, feeble; bowels still relaxed.—Rep. Empl. Cantharid.; Cont. Pulv. et Mistura 6ta quaque horâ.

13th.—Had passed a good night, and had had only two healthy alvine evacuations since the day before. Pulse 72, soft and compressible; tongue moist, and covered with a thick yellowish mucus, with some aphthæ about the tip and frænum. The dulness on percussion had decreased. The respiration was now puerile in the right infra-clavicular region; the tubular breathing and œgophony had entirely disappeared posteriorly, and mucous and muco-crepitating rattles were general in all the parts affected. To have an egg and beef-tea.—Omitt. Pulv. Capt. Mistur. Cretæ c. Vin. Ipecacuanh. ♏xx. ter die. Gargarism. Acid. Nitric. pro ore.

14th.—The aphthæ had a sloughing aspect, and were ordered to be brushed with nitrate of silver: he enjoyed his food notwithstanding.—Pergat.

16th.—Countenance cheerful, and breathing quite easy; the mucous were gradually taking the place of the more crepitating rattles. He now had a slight cough, with greenish mucous expectoration; the dulness on percussion had almost entirely disappeared. Ordered — Decoct. Cinchonæ; Tr. Aurantii, ʒj.; Ammon. Sesquicarb. gr. iss. 6tis horis. Allowed 2 eggs.

The future reports, being merely indications of progressive improvement, need not be here noticed.

On January 9th, a month after he came under my care, and five weeks after the commencement of the attack, the report is, "he had grown quite fat; the respiration was natural on both sides, and the dulness on percussion of the right side was barely perceptible."—Presented.

This was certainly one of the most severe cases of pneumonia which I ever saw recover. The efficient remedy appeared to be the tartar emetic. No improvement had occurred: indeed, he had gone on from bad to worse, until this medicine was increased from one-sixth to half a grain every three hours. The very next day there was a decided amelioration of some of the symptoms, and notwithstanding the dysenteric stools, and the aphthæ, (probably the result of the medicine), he continued progressively to improve till he got quite well. At the same time, it may be well to recollect, that had not the patient been young, and in the main healthy, he could not have borne the remedies administered, and that if he had not died of the disease, he would with the use of such means not improbably have died of the doctor.

Case VII.—*Pneumonia — treated ineffectually by cupping, calomel, antimony, and opium, afterwards successfully by venesection.* (Reported by Mr. Devenish).

E. P., aged 29, admitted under my care into Guy's Hospital, Feb. 10th, 1848. She was a cook-maid, living at Brixton, with light eyes, full face, and brown hair, was unmarried, and had previously enjoyed good health. Four days ago, after exposure to cold while washing, she felt very chilly, and had pains in all her limbs, followed by perspiration and pains across her chest, preventing full inspiration. Upon admission, she was very sick, from the administration of medicine containing antimony, and she had a severe cough, with copious, tenacious, and deep-red expectoration. She had a catching pain in the left side. Her respiration was hurried and difficult; her tongue very much coated, but moist; her bowels actively purged from medicines previously administered; her skin hot, dry, and pungent; her pulse quick and full, 96-100, and her appetite defective. Adsunt catamenia. At the lower part of the left side of the chest there existed great dulness on percussion, and, with the exception of the infra-clavicular region, dulness, though to a less degree, was present over the entire anterior surface of the left side. Over the dull parts were heard marked tubular breathing and bronchophony, and the former of these gradually merged superiorly into characteristic pneumonic crepitation. The right side appeared healthy.—Appl. Cuc. Cruent. ad ℥viij.; Capt. Pil. Antim. Opiat. c. Hydrarg Chlorid. gr. iss. 6ta quaque horâ.

11th.—The face was flushed, and the skin still hot and pungent. No improvement existed in any respect.—Rep. C. C. lateri sinistro ad ℥viij.; et postea Cataplasm Lini.; Cont. Pil. 4ta quaque horâ.

12th.—Complained of great pain and great distress of breathing. The dulness on percussion and crepitation were each more extensive, and were obviously but progressively creeping upwards, and involving the upper part of the lung. The disease was still unchecked; on the contrary, it was obviously on the advance, though the gums were slightly affected with the mercury. The cough was very distressing, and the expectoration mucous, reddish, and tenacious. The bowels were confined.—V. S. ad prima signa deliquii; Capt. Olei Ricini, ʒj. statim. Rep. Pilul.

13th.—Relieved by bleeding; about ten ounces of blood were removed: coagulum was cupped and slightly buffed; bowels loose.—Rep. Pil. 6ta quaque hora, et, si opus fuerit, Mist. Cretæ.

15th.—Felt much better: the skin was now moist; the pulse 87, soft; the gums and mouth were very sore. The crepitation formerly existing in the upper part of the lung had disappeared, and had supplied the place of the tubular breathing previously present in the lower part of the lung.—Rep. Pil. sine Hydrarg. Chlorid.; Capt. Vin. Antim. Potassio-tart. ♏xx.; Potass. Nitrat. gr. v.; Syr. Papaver. ʒj. ex Aqua 6tis horis. Applicet. Emplastr. Cantharid. lateri sinistro.

17th.—Felt better. The resonance on percussion of the two upper thirds of the left side was nearly normal; and the respiratory murmur was more distinct, more free from crepitation, and extended further down. The bowels were still relaxed, and the blister very sore.—Capt. Mistur. Cretæ, c. Syr. Papaver. ʒj.; et Vin. Ipecacuanh. ♏xxv., 6ta quaque horâ; Rept. Pil.

19th.—Was making favourable progress in every respect. Crepitating rattle was now heard to the very base of the chest, at the end of the inspiration, and the commencement of the expiration, though bronchophony and tubular breathing still existed there; cough and soreness of mouth still troublesome; expectoration mucous and white, mixed with a few streaks of blood.—Pergat Gargarism. Acid. Nitric.

24th.—The resonance of the left side was now equal to that of the right side; the vesicular murmur was now general, but was obscured by *mucous* rattles; she complained principally of want of sleep.—Capt. hora somni Opii, gr. j.; Quinæ Disulphat. gr. j.; Acid. Sulph. dil. ♏iss.; Tr. Aurantii, ʒss.; Syr. Aurantii, ʒj. ex Aq. ter die.

26th.—Had, on some parts of her body, a crop of eczema, to which she had been previously subject.

28th.—Eczema general. Evidences of pneumonia had *entirely* disappeared.

March 2d.—Eczema had disappeared. Convalescent.

18th.—Presented quite well.

Never was, I think, presented to my notice a more marked instance of pneumonia, and rarely has venesection been more obviously beneficial than in this case. Until bleeding was employed the disease was on the advance, notwithstanding that the gums were already highly affected by the mercury. Immediately that the bleeding was practised, and partial syncope was induced, the disease appeared checked, and from that time the recovery of, the patient was steadily progressive.

Possibly large doses of antimony might have been equally effective. Was the eczema the effect of the mercury on a person previously liable to this affection of the skin? From its sudden appearance, and equally sudden disappearance, I presume that it was the exciting cause of the complaint. Had the eruption any effect in the removal of the more severe complaint? I believe that it had none, as it only appeared when the cure was already almost complete.

CASE VIII.—*Pleuro-pneumonia; ordinary constitutional symptoms absent. Treatment—calomel, antimony, and opium, with cupping.*

R. B., aged 38, admitted into Talbot Ward, under my care, April 14th, 1848. A tall, sallow man, of regular habits, by occupation a mason, was in the hospital four years ago, in consequence of a mason's chisel being accidentally thrust, up to the very head, into his side, just below the *left* scapula. He then suffered very little; had no hæmoptysis or pneumonia, or even pleurisy, in consequence, and was discharged free from complaint in a month. From that time he had always enjoyed good health up to ten days ago, when he was attacked with shivering, faintness, and headache, together with a sharp pain under the sixth and seventh ribs, on the *right* side, which was increased upon coughing and deep inspiration. He had some slight cough and expectoration. He now suffered from general malaise, and complained of pain in the right side, increased on deep inspiration; he had a little herpes round the lips, but very little cough, and no expectoration. The skin was cool, and rather moist, and he had occasionally rather free perspirations. The urine was rather abundant, high coloured, and bilious. The right side, below the nipple before, and the centre of the scapula behind, was very dull on percussion. Posteriorly, tubular breathing and ægophonic bronchophony; and anteriorly, pleuritic rubbing, together with characteristic crepitating rattle, were so distinctly audible as to be recognised by several pupils. Ordered—C. C. parti dolent. ad ℥x.; Pil. Antim. Opiat. c. Hydrurg. Chlorid. gr. iss. 6tis horis, c. Julep. Ammon. Acetatis.

15th.—Pain relieved; slept well; pulse 70, compressible: in other respects as before.—Pergat.

16th.—Complained again of pain in the right side, but had no cough and no expectoration. Pleuritic rubbing and crepitating rattle anteriorly, and tubular breathing, with bronchophony, posteriorly, still distinctly audible, and dulness on percussion observable in all the parts affected.—Empl. Cantharid. magn. lateri dextro. Pergat.

17th.—The tubular breathing was less marked posteriorly. Air began now to enter into the finer divisions of the bronchial tubes, and some mucous and some muco-crepitating rattles became audible behind. The pleuritic rubbing was still, but no crepitation was now, audible anteriorly. The pulse was regular, the tongue clear, and the bowels open.—Pergat.

18th.—The gums were rather tender; the mucous crepitation was gradually becoming more general behind; the dulness on percussion was less extensive, and less marked; and the tubular breathing had considerably decreased. The tongue was moist, and rather furred. Pulse 62.—Pergat.

22d.—"Rale crepitant redux" had since the last report been very general posteriorly, but had now diminished, as, indeed, had all the physical signs, though considerable dulness on percussion still existed.—Rep. Pil. ter die.

27th.—The pleuritic rubbing was quite gone, and the dulness had diminished: pure respiratory murmur was now audible in the parts in which tubular breathing and bronchophony, the mucous, muco-crepitant, and crepitant rattles, had been successively distinctly heard. The administration of the pill had been gradually reduced in frequency: the pulse was regular; the bowels open, and the appetite good.—Rep. Pil. alternis noctib.

May 8th.—He had continued to improve in strength, though some dulness, the only remnant of the disease, continued posteriorly.—Rep. Empl. Cantharid.; Inf. Gentian. c. c. Liq. Potass. ♏x. ter die.

16th.—He felt pretty well and strong. Presented.

Independently of the fact of the mason's chisel being forced into the left side of the chest four years before, and no indication of internal injury, and scarcely any mark of external violence being left behind, the peculiarity of this case, if any, existed in the extremely well-marked characters of the physical signs, and the facility with which the complaint was marked thereby, together with, considering the extent and nature of the disease, the exceedingly slight constitutional symptoms which accompanied them. It may not, perhaps, be too much to say that the nature, the gravity, and extent of the affection, without the aid of percussion and auscultation, could not have been discovered, and would scarcely have been suspected.

CASE IX.—*Simple pneumonia during the progress of fever.* (From the Report of Mr. TASSEL.)

M. F., aged 19, admitted May 3d, 1848, under my care, into the hospital in a considerably advanced stage of fever, with a dry brown tongue; macula upon the surface of the trunk, diarrhœa and retention of urine, for which ammonia and serpentary wine, opiate and starch enemata, and the catheter, were employed with advantage, was, upon the eighth day of her admission, and the eighteenth day of the complaint, while making favourable progress, attacked with pain of the side, below the mamma, accompanied with heat of skin, and great vascular excitement, cough, dulness on percussion, and muco-crepitating rattle in the part affected, together with white, frothy, and tenacious expectoration. Ordered—Empl. Cantharid. lateri sinistro; Pulv. Ipecac. c. gr. v.; Hydrarg. c. Cretâ, gr. ij. quaque nocte; Ammon. Sesquicarb. gr. iij.; Julep. Ammon. Acetatis, Infus. Serpentariæ c. aa. ʒvj.; Vin. Ipecac. ♏xx. 6ta quaque horâ. Omitte Vinum.

May 11th.—The next day the crepitation was less; the cough equally frequent and severe, but she appeared very low.—Pergat, sed. capt. Vini, ℥iv.

13th.—Great excitement was present; the tongue was rather dry, and the skin was hot, dry, and pungent, though the dulness on percussion was less, and the crepitation had now merged into a simple mucous rattle.—Omitte Vinum; Cont. Mistur. et Pulv. From this time she progressed favourably and rapidly; though she was again considerably excited, and complained of headache, when, during her convalescence, she was again ordered a little wine. It was consequently withdrawn altogether; she rapidly gained strength without it, and was enabled to leave the hospital quite well by the end of the month.

I do not think that this case requires any especial remark, though I do not consider it on that account the less importantly illustrative of the questions referred to in the opening paragraph of this communication.

[To be continued.]

OUTLINES OF MEDICAL PROOF.

By THOMAS MAYO, M.D. F.R.S.
Physician to the Infirmary of St. Marylebone.

[Continued from p. 487.]

IN my last paper I made an admission of very obvious truth, that the causes which we assign in pathology and therapeutics do not fulfil the strictly philosophical idea of the word **cause**: that they rarely pretend to contain the whole antecedents to the effect. Still, in order that the name may be assigned in a sense distinguishing it from mere condition or property, the cause must offer some explanation of the effect. Thus, to take an example from general physics, let us suppose an inquirer into the phenomena of dew to have arrived at the fact that bodies which radiate heat most are so far most readily bedewed on their surfaces. Now, observing that the radiation of heat is productive of relative cold to the radiating body, he will be justified in considering radiation of heat in bodies a cause of dew by chilling them, and thus producing on them a deposit of moisture from the surrounding air. Let him pursue his inquiry further, and he will find radiation of heat only a modifying circumstance in reference to the general laws of condensation of insensible vapour by cold, as the true cause of dew. But the extent to which his first conception on the subject has proved explanatory of the phenomena will have entitled him, according to the usages of language, to assign to it a causative agency. Neither does this supposition on my part imply any return to the justly exploded doctrine of efficient causes. It is, indeed, most true, that of the essence of causation we have no knowledge beyond the recognition of a sequence of phenomena: yet, in assenting, in these respects, to the limitation of Dr. Brown,[*] I may allege that the recognition of this sequence of phenomena does in some cases involve a discovery of the manner in which, or the laws under which, the effect takes place. Such is, I believe, the sense in which we are justly said to comprehend the relation of an effect to its cause, in the fullest degree. And such is, I believe, the sense in which every language possesses a term corresponding to cause, and distinguishing a causal condition from all other conditions or properties; whether the idea be that under which *all* the antecedents to the effects are comprehended, or that more limited one in which, as I have observed, we are often contented to apply the term in medicine.

Now it must be admitted that the causes assigned on a gratuitous hypothesis will partake in the nature of that hypothesis; and that the explanation which such causes suggest will be fanciful. Their propounder, indeed, if he rightly understand their use, will view them, comformably to the expression of Sydenham, only as subservient to a more vivid illustration of his ideas.

I have observed, in the Outlines of Medical Proof, that in this latter point of view a gratuitous hypothesis may be useful, or even essential, as an exponent of certain researches. "No definite idea," I remark,[†] "could be conveyed by description of the cogitata et visa of microscopical physiologists, either to themselves or others, unless in expressing them they had assumed a theory of uses and purposes." But, while I contend for the value of gratuitous hypotheses in such respects, I must express a suspicion that these philosophers are not always sufficiently cautious as to the extent of proof which they consider it to afford. Nor am I satisfied on this point by their occasional admissions of the speculative character of their researches. "It is by the special vital activity of individual cells," says Dr. Addison, "and of all the visible particles composing their structures, that the secretions are produced."[‡] Surely some modifying terms are wanted here expressive of the total absence of all the really explanatory ingredients of causation, under which this assignment of a cause to the secretions labours. Compare this passage with the important experiment,[*] No. XIII., by the same author, through which he enables us to conjecture analogically how a formative power may be generated in pus corpuscles, by observing them in contact with liquor potassa, and witnessing the tissue formed by this combination. In the first of the cases adverted to, the existence of a cell-power is begged by the use of terms which presuppose it; in the second case, we are taught by a well-devised experiment how such a power may be possibly contributed *ab extra;* and an analogy is thus supplied which may at some time suggest the organic cause of such tissues. Such is the difference between the gratuitous hypothesis first stated, and the experiment last alluded to; yet both are given by the ingenious author with the same apparent confidence as to their value.

But wherein, I may be asked, consists the harm of the gratuitous hypothesis thus quoted, serviceable as it is in giving a bond of union to vital processes? Merely in this—that its author assigns it a positive, and not a conditional, truth. So anxious, indeed, is he to maintain cell-structure in the possession of a causative power, that, in the experiment just quoted, summing up its results, he damages, if I mistake not, its real value as an analogical illustration of the manner in which, by a superinduced agency, cells *may* form a tissue or membrane, by using it as a direct evidence of the truth of a gratuitous hypothesis that cells *do* form such membranes *proprio motu*. His expressions are—"It is evident the plasticity of the resulting membrane results from the rupture of the cells."[†] Herein he takes no account of the conceivable agency of the liquor potassæ, not only in making them discharge their contents, but in modifying the product.

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[*] On Cause and Effect.

[†] Page 19-20.

[‡] This passage is taken by me out of a long paragraph. My reader will readily ascertain, by referring to the original work, whether I have done it injustice in calling it a gratuitous hypothesis, in spite of the ingenious matter which accompanies it, in that and the preceding paragraph.—See Experimental Researches on Secretion, by W. Addison, F. L. S. page 22.

[*] See actual process of nutrition, page 18.

[†] See Experiment XIII.

Thus it happens that a description is confounded with an inductive process. The plastic or formative power which is assigned to cells are not conditions involved in the relations in which those cells and molecules are witnessed through the microscope, whether combined or in successive development. The relation expressed by Dr. Addison in those terms is gratuitous at present, and awaits the discovery of a real power, as it would be called, according to the doctrine of efficient causes; or of an inductive explanation, as we should venture to term the deficient element.

The plastic or formative power of cells forms the basis, in Schwann's admirable work, of much reasoning, seductive, as it appears to me, from the real mode of obtaining truths on the construction of tissues, and the causation of secretions. Beginning with an admission of his hypothetical mode of proceeding, "the *unknown* cause presumed to be capable of explaining these processes in the cells *may be called* the plastic power of the cells," his reasoning proceeds absolutely and authoritatively as if a true cause had been eliminated. In the first place, there is a power of attraction exerted at the commencement of cell life, in the molecules, which occasions the addition of fresh molecules to those first observed. Now let us consider what explanatory force this word-attraction may possess.

Physical attraction is said to act at sensible or insensible distances: in the former sense, it is in relation to our globe, gravitation disposing all bodies to descend to the earth. In the other sense, it preserves the forms of bodies, modifies texture, gives spherical form to fluids, causes adhesion of surfaces, and influences their mechanical character; operating upon dissimilar particles, it produces their union. But in all these cases it operates agreeably to laws. It is for the microscopist to point out under what laws his attraction acts in the cases referred to. This he has not done.

We next find a metabolic power, or a power of originating changes, attributed to cells; and vinous fermentation is adduced by Schwann as an instance of this. "A decoction of malt," he observes, "will remain for a long time unchanged, but as soon as some yeast is added to it, which consists partly of entire fungi, partly of single cells, the chemical change immediately ensues. Here the decoction of malt is the cytoblastema; the cells already exhibit activity, the cytoblastema, in this instance, even a boiled fluid, being perfectly passive during the change."* Now, is not this a game of words? Would it not be as easy to say, that the activity of the cells is itself occasioned by the cytoblastema, the decoction of malt, or that the actions are reciprocal? Each, in fact, undergo changes, though "the contents of the cell undergo more frequent changes than the external cytoblastema. The movement of the cell is no proof that they originate motion, neither is the apparent quietness of the decoction of malt a ground for asserting that it is not influencing the cells. If the fact, that this fluid is boiled, be adverted to by Schwann, as involving inactivity of the cytoblastema, why does it not also involve inadequacy in its materials to form parts of active cells? How unlike, in the important particular of referring phenomena to general laws, is Schwann's cell theory of fermentation, to Liebig's reference of that process to the contagious influence of chemical action, a law so widely instanced in the decomposition of substances held together by weak chemical forces! By this law, truly a chemical one, we are enabled to accept the primary influence of the cells, as being in a state of chemical action, and the contagious decomposition of the cytoblastema.

In the above remarks, I have ventured to criticise important inquiries in a field out of which pathological and therapeutical hypothesis of a valuable kind may eventually be raised. It is my consciousness of the importance of the subject, on these grounds, that has made me select it for these strictures. But I am far more confident in the importance of my subject than in my success in handling it. However this may be, I will suggest a few of the principal grounds for caution, against those errors in reference to presumed causation, which I have endeavoured to elucidate.

The simplest descriptions involve, in a degree, hypothetical language, and I have pointed out its peculiar demand in microscopical inquiries. But the objects of perception ascertained, and the order in which they are presented, being the truly important points at the present stage of the above inquiries, may be obscured and overlaid, as it were, by too ambitious hypothesis.

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* Page 198. Microscopical Researches, published by the Sydenham Society.

The progress of inquiries towards the ascertainment of inductive causes will be thus retarded, the discovery of such causes being assumed to have already taken place, while causes founded on gratuitous hypothesis, and explaining nothing, are adduced as inductive causes.

Finally, risk is incurred of some sterile hypothesis being drawn from these views, and engrafted on medical investigation.

The last of these considerations touches a subject deeply connected with our philosophical interests. The concurrent energy with which medical science is at present cultivated through Europe and America, places us on the threshold of great discoveries; and these may probably be expected *viâ* the prosecution of microscopy and chemistry, as giving us the completest information respecting structure and composition. I have suggested, on a former occasion, that chemistry has sometimes been over-daring in its application to medicine of causes founded on induction. From microscopy we are in some peril of receiving causes, having no foundation but words.

[To be continued.]

ON THE
BLOODVESSELS OF THE NERVES OF THE HEART.

By Joseph Swan, F.R.C.S.

[Continued from page 366.]

Part II.

Besides the superficial plexus for the supply of the fat, the pericardium and nerves, the coronary arteries in descending send numerous small branches to the surface of the muscle, and large branches, almost transversely, through the parietes, which freely distribute smaller branches to the muscular fibres, and send some to form a plexus on the attached surface of the lining membrane. Athough the coronary arteries communicate at the ring at the base of the heart, and at the apex, the communication is not very free, but each can do very little more than supply its respective region; so that if one is injected with red and the other with black, the parietes each supplies will assume the colour of the injection; and when the left coronary artery was wounded at the ring three quarters of an inch beyond the trunk, and each end of the wound was secured by a ligature, the part it supplied was not injected, but required another pipe to be fixed in the wounded part for this purpose. When the veins have been filled with quicksilver, the apex, on being pressed, instantly rebounded like an elastic ball; and it may, therefore, appear probable that besides the tapering form, the large bloodvessels in this part tend to prevent the reception and communication of too great an impulse. The superficial plexus has been adverted to by Portal* in his description of the coronary arteries, inasmuch as Ruysch had injected these arteries so minutely that the head of a pin could not be put in any vacant place on the surface. In one heart, I lately injected not only the bloodvessels but the absorbents, and there was a great approach to this description; indeed, from apparently nothing to see, in a few minutes not only the whole surface covered with vessels, but their order and distinctness, excited a greater degree of admiration than I have ever before experienced from any anatomical display.

In the last three hearts I injected, I filled not only blood-vessels, but absorbents. In the first, some of the injection had reached the veins, and an absorbent of the size of one or two bristles was filled with the varnish, but not with any of the vermilion, on every nerve I examined. The second I have already alluded to, and the absorbents on the largest nerves were filled to the size of a crow's-quill; on the smaller nerves they were smaller. In the third, none of the injection appeared to enter the veins, but the exhalants allowed the clear varnish to exude so freely as to keep the pericardium bathed as the skin would be in a profuse sweat; the largest absorbents were of the size of a crow's-quill.

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* Anatomie Médicale, tome iii. p. 148.

Anatomists have for more than half a century believed that mistakes have frequently arisen from adopting absorbents for nerves. When the absorbents are empty, they appear as parts of the nerves, and when they are moderately filled, they appear in close connection with the nerves; but when they are fully distended, they completely overshadow them.

I have thus shown that the white lines on the surface of the heart are not pure nerves, but contain a large proportion of extraneous matters, and if they are carefully examined, they will, I think, appear to possess only the small quantity of nervous matter they derive from their respective trunks.

Although from the quotation I have made it is clear it has been long known that there existed a general superficial plexus of blood-vessels, and although the absorbents of the heart are described by almost every author on anatomy, no mention has been made either of the one or the other as having a peculiar arrangement with respect to the nerves.

REMARKABLE CASE OF EARLY MENSTRUATION AND PREGNANCY.

By John Smith, M.R.C.S. L.A.C.

The circumstances connected with the subsequent case, on account of the extreme youth of the party, have excited considerable interest in this city and neighbourhood; and as communications have been made to me from distant parts of the country for purposes of inquiry, it is a point of duty to give publicity to the facts in a different form from that in which they have already appeared. It is due, however, to myself, to premise that, inasmuch as no untoward symptoms occurred during the progress of parturition, it did not seem necessary, nor was it my intention, to have made any further record of the occurrences themselves, than by giving them a place among my notes of cases,—so that, in this simple desire to satisfy the public mind, I trust I may escape the imputation of obtrusiveness.

It may not have been forgotten by some of your readers, that, at the Coventry Assizes of August last, a young girl, named Julia Amelia Sprayson, preferred a charge of rape against her uncle, James Chattaway, who was convicted of the assault, and sentenced to two years' imprisonment and hard labour in the House of Correction. The girl was far advanced in a state of pregnancy; and as it is of rare occurrence for conception to take place at so early an age as between *eleven and twelve years*, many surmises were expressed by the gossips, as to what would be the probable issue.

She continued in good health up to the day of delivery, which took place on the 16th of September last. In the early part of the morning she became restless and uneasy, and from the hour of 11 A.M., slight pains occurred at irregular intervals, until about 5 P.M., when it was evident that labour was rapidly advancing. On being sent for soon after, in consequence of the absence from town of Dr. Dewes, who had been engaged to attend her, I proceeded to make an examination, when I found the pelvis of average dimensions, and the os uteri about the size of a shilling piece; but, as the parturient throes were active, and returned every eight or ten minutes, it appeared prudent to remain until the case had terminated. Nothing remarkable supervened during the progress of the labour, except that it was of unusually short duration. From first to last, she was not more than ten hours ailing, while the period of actual labour was not extended beyond four hours, and this would have been further shortened, but for the smallness of the external outlet. The subsequent symptoms were just as favourable as the labour had been short. The lochia ceased after the lapse of a few days, the mammæ became duly developed, and the secretion of milk was so copious, as presently to suggest to her mother the idea of seeking for her a situation as wet nurse.

The infant, at birth, was long, slender, and emaciated, but rather below the average size, and, in many respects, may be said to have borne a striking resemblance to the offspring of mothers who had been imperfectly nourished during pregnancy. It did not occur to me at the time, either to place it in the scales, or to take its admeasurement; but at the time of publishing this report, it is 8¼ pounds in weight. The present weight of the mother is 104½ pounds.

When she had so far recovered as to take a share in domestic avocations, it seemed advisable to pay her an early visit, to elicit, if possible, some further information than what had transpired in Court, with a view of establishing some data as to the period of utero-gestation; and, although foiled and disappointed with the result of this part of the investigation, some particulars of interest were readily obtained. She was rather of prepossessing appearance, of fair complexion, with brown hair and dark grey eyes—more womanly by far than is usually witnessed at her age, her figure being tolerably plump, well-set and proportioned, and her height being rather more than five feet; and, notwithstanding her casually childish manner, there was that forwardness of expression which betokened a more than ordinary development of character. On inquiry, her mother assured me that she began to menstruate when *ten years* and six weeks old; and it was distinctly ascertained that there had been a regular return of the catamenial discharge, in somewhat profuse quantity, up to the period at which conception took place. The girl had lost her father about two years ago, and, that she might not be a burthen to her widowed mother, had been in residence with her uncle, who was a weaver, at Foleshill. This unhappy man, who proved her seducer, was æt. 47, living with his wife, to whom he had been married 25 years, and by whom he had had a family of two or three children. The niece was taught to weave at a hand-loom which stood in the same apartment as the one at which her uncle pursued his daily employment; and here it would seem that familiarities arose which issued at length in criminal intercourse. This latter took place for the first time about the middle of November, 1847, and was allowed to be repeated on four occasions, at weekly intervals; but, as the catamenia had appeared during the last week of that month, and did not recur in the Christmas week, she dated conception from the latter period. No communication was made to her relations of what had transpired until six months had elapsed, when her situation became too prominent to elude further observation; and then it was that arrangements were made for bringing her under the maternal roof, and means were taken for delivering her seducer into the hands of justice. The most rigid inquiry failed in deducing any further particulars that could be at all relied on as authentic information.

Several examples are on record wherein pregnancy has occurred in very early life; but no well-accredited case has come to my knowledge in this country of a child at *twelve years and a half old* giving birth to a living, and for the most part healthy, infant. Such, however, was the fact in the foregoing instance; and, that there might be no misapprehension on this subject, I have been at the pains of consulting the registers both of her birth and baptism. The former bears the date of February 13th, 1836; and the latter, March 7th of the same year.

King Street, Coventry,
Oct. 23, 1848.

OBSERVATIONS AND SUGGESTIONS
IN REGARD TO
CHOLERA ASPHYXIA,
ADDRESSED TO THE CENTRAL BOARD OF HEALTH, LONDON.

By Charles Bell, M.D. F.R.C.P.E.
One of the Physicians to the Cholera Hospital, Dumfries, in 1832.

Having had extensive opportunities of observing the nature and progress of Cholera Asphyxia in 1832, during the whole of its continuance in Dumfries, where it appeared, I believe, in a more virulent form than in any other part of Europe, I hope I shall not be considered presumptuous in offering a few remarks on this most inscrutable disease, now that it has again come amongst us, when we are so little prepared for its reception. It is true that no human means could have prevented the approach of cholera; but there is every reason to believe that, by timely and judicious arrangements, the sufferings of the sick might have been greatly alleviated; and, by the blessing of Providence, much might have been done to limit the extent and mortality of the disease.

The experience I have had in the management of cholera induces me to speak with confidence on the subject. I had the joint charge, along with my friend Dr. Grieve, of the Cholera Hospital in Dumfries, and, at the same time, had frequent opportunities of seeing the disease in private practice, arising from the melancholy circumstance, that many of the better classes of society were affected; to which was added, the attendance in the districts when the medical officers appointed to that duty were unable to perform it, from over-fatigue or illness. I thus had a wide field for observation, of which I did my utmost to take advantage; and I trust the result of my experience may prove useful in allaying, on the present occasion, much needless alarm in regard to the contagion of cholera. I hoped that this subject had been set at rest; but I understand it is likely to be again revived in this town. Nothing can be more erroneous or injurious than giving encouragement to such an impression, and it is of the utmost importance that every means should be adopted to prevent its gaining ground among the people.

When cholera appeared in Dumfries, I resolved to lay aside all preconceived notions on the subject, and to form my opinion of the nature of the disease entirely on what came under my personal observation. With this view I visited every case within my reach, and endeavoured to ascertain its cause. I spent from six to seven hours every day in the hospital, prescribing for the sick, and dissecting the dead. Having observed the dread that was generally entertained with regard to cholera patients being buried alive—a fear that was greatly increased by the regulation which rendered it necessary that the bodies should be buried within twelve hours after death,—I opposed such a gross infringement on the customs and prejudices of the people, and had the bodies kept four and five days. Frequently after that period I spent several hours inspecting them while I was surrounded by the dead. On one occasion I was so unfortunate as to wound myself severely when examining a body which had been kept five days; yet no bad effects resulted. Nor was the health of the inmates of the hospital in any way injured by the bodies being so long detained within its precincts, although the apartment in which the nurses spent much of their time when not on duty in the wards was on the same floor, and close to the dead-house.

The result of the practice in the hospital was certainly satisfactory, when we consider the virulent character of the disease in the town, and the very advanced stage at which the patients were generally brought to it; and it proved at the same time, in a striking manner, the non-contagious nature of cholera. By the cases which were reported to the Board of Health, it appeared that rather more than one-tenth of the inhabitants of the town were affected, and that above one-half of those died. From the hospital, more than one-third was dismissed cured. There were in the establishment four house-surgeons and fourteen nurses, and the only individual who was affected with cholera was a male nurse, who was taken from an infected locality, after several of his family had fallen victims to the disease; and he was employed principally in the districts, burying the dead.

I saw no case which could be traced as the result of contagion. The disease progressed along the ground floors; and there was no example of its spreading in upper stories of houses with common stairs, although there was no interruption to the intercourse between the apartments of the sick and the healthy in such situations. I may here mention a case which illustrates the non-contagious nature of the disease very forcibly.

A highly respectable and wealthy farmer, sixty years of age, of broken constitution, who lived several miles from town, attended Dumfries market some time after cholera had apparently disappeared, and was induced to visit a brewery situated in the quarter where the disease lingered longest in its most virulent form. He spent some time tasting the different liquors made at the brewery, and finished off with a liberal allowance of whiskey. Within two days after this visit he was seized with a severe attack of cholera, which was followed by the consecutive fever. During the whole of this gentleman's illness he was attended by two sisters and a niece, all of whom were in a state of health most unfavourable for such a duty; and although I have observed these individuals partaking of the food which the patient left, yet none of them was affected with the disease; nor was it communicated to any of his friends, who visited him without reserve.

From these facts, I feel convinced that cholera was not communicated by contagion from one individual to another; but that it arose from some poison generated near the surface of the earth, just as we observe carbonic acid gas emitted in certain localities. The nature of this poison is wholly unknown; but it is very certain that it occurs with greater virulence in close, damp, and filthy situations; and that in such places its influence on the human system will be more difficult to overcome; and should the physician be so fortunate as to be the means of arresting the progress of the disease in an individual in such a locality, a relapse is very likely to occur, and will inevitably cut off the patient.

Under these circumstances, therefore, I deeply regret that it should have been resolved upon by the authorities to treat the poor in their own houses: such an attempt will prove an utter failure, and be a certain source of disappointment; while it will expose the friends and attendants of the sick to an attack of the disease, which they might otherwise avoid, thereby tending materially to encourage the impression that it is contagious. The result of this will be to deprive the sick, in many instances, of the comfort of having their friends around them, which is always an accessory to their cure. It appears to me it would be as reasonable to expect to reanimate a person in a state of anæsthesia, while surrounded by a dense atmosphere of ether or chloroform, as to cure a patient in such circumstances; and it would not be more surprising to find his attendants thrown into the same state as himself.

I trust that no encouragement will be given to this "penny wise and pound foolish" system of economy; otherwise it will lead to great distress and ultimate expense. No time, therefore, ought to be lost in providing suitable comforts and accommodation, with proper attendants, for the poor during the continuance of the present epidemic. Let hospitals be appointed for the sick who live in low and damp situations, from which they ought to be removed immediately on being affected with the disease; and at the same time let a sufficient supply of nurses be collected for the attendance of those who live in the upper stories where the sick may be treated with advantage to themselves, and safety to their attendants. The propriety of these suggestions being acted upon without delay, appears to me to be fully substantiated by the results in Leith, where, I understand, every case has proved fatal. I have only further to recommend, that no outrage be committed against the feelings of the people, by the hasty burial of the dead, which only produces unnecessary alarm.

By such arrangements as these we may hope, under the blessing of Providence, to relieve the miseries of the poor, if not to circumscribe the ravages of cholera.

Edinburgh, October 12, 1848.

DR. BUEL ON THE STATISTICS OF AMPUTATIONS AT THE NEW YORK HOSPITAL.

The whole number of amputations presented in the tables amounts to ninety-one, of which twenty-six were fatal, making the mortality 28·57 per cent.

Of amputations of the hip-joint there was one, and that fatal.

Of amputations of the thigh the whole number was thirty-four, of which ten were fatal, making the mortality 26·47 per cent.

At the knee-joint there was one amputation, and that fatal.

Of amputations of the leg the whole number was twenty-four, of which seven were fatal, making the mortality 29·16 per cent.

Of amputations at the shoulder-joint the whole number was nine, of which four were fatal, making the mortality 44·44 per cent.

Of amputations of the arm the whole number was eleven, of which none were fatal.

Of amputations of the forearm the whole number was thirteen, of which three were fatal, making the mortality 23·07 per cent.

So that we have sixty amputations of the lower extremity, of which nineteen were fatal, making the mortality 31·66 per cent.

While of thirty-three amputations of the upper extremity, seven were fatal, making the mortality 21·21 per cent.—*American Journal of Med. Sciences*, July 1848.

MEDICAL GAZETTE.

FRIDAY, NOVEMBER 3, 1848.

We have at various times given insertion to letters of complaint respecting the treatment of medical officers of the navy; and if we have not hitherto called public attention to the ill-treatment which they have for some years sustained at the hands of those in authority, it has not arisen from any want of sympathy with their cause.

It appears that in the year 1805, an order in Council was issued, placing these officers on the same footing as to "rank, pay, and designation," with the medical officers of the land forces. The object of the order was plain—namely, to induce able and well educated men to serve at sea; but its execution was unfortunately entrusted to the Lords of the Admiralty, who allowed it to remain a dead letter. It was not until after the lapse of nearly thirty years, during which continual complaints had been made by the medical officers, that their case was brought before the last Parliamentary Commission, and the Admiralty was compelled to do in 1832, what the King had ordered in 1805. The "pay and designation" were granted, and the "rank" could not be denied, but all its real and practical advantages are still refused, in open defiance of the Royal authority and order in Council. If "rank" mean anything at all, it surely implies that the possessor should enjoy equal privileges with others of the same rank. Yet, so far is this from being the case in the navy, that the medical officers in active service are not only refused accommodations, which their *equals* enjoy, but accommodations which are actually enjoyed by their *inferiors*. The first lieutenants of marines are equal in rank with assistant-surgeons; the second lieutenants are inferior, yet both mess with the grown-up officers, and are allowed cabins, while the assistant surgeon has no cabin, and is obliged to mess with the midshipmen. The chaplains and naval instructors have no rank whatever, yet cabins are provided for them, and they mess with men. We do not hesitate to say, that a more shameful act of injustice has never been perpetrated by a set of men ordered by their King to carry out his wishes, and paid by the country to see that every branch of the service is in an efficient state.

So much for the *justice* of the Lords of the Admiralty; let us now consider for a moment their *policy*. They must surely know how very much their own health and comfort, as well as of the officers and men under their command—in a word, how much the efficiency of every ship—must depend upon the ability of the medical officer? Even in war time, the number of men disabled by sickness far exceeds those who suffer from direct violence: in either case their fate depends in a great degree on the skill and experience of the surgeon. Yet so far from these obvious considerations inducing those in authority to encourage able men to enter and remain in the service, they have been not only overlooked, but measures have been actually adopted to render the medical branch of the service as unpopular as possible—to reduce the number of candidates to *nil*, and to make every one who has entered the service, seize the very first opportunity of leaving. If this class of men were fairly dealt with, we do not hesitate to say that it would be by far the most popular medical branch in the public service: able men would enter and remain in it,—they would have convenience for study; and we should not then have to regret the small contributions which those who have remained long in the navy, have made to the science or literature of their profession.

The medical officers ask no favour of the Lords of the Admiralty; they merely demand the *rights* granted by their Sovereign; but these have now been so long and so obstinately withheld, that it is plain there will be no redress until their case is brought before Parliament by some member whose position and character will entitle him to the attention of the House. We trust that another session will not be allowed to pass without some stringent rule being adopted, which may place professional men in the navy beyond the reach of the caprice or ill-temper of those who are unable to appreciate the importance of this class of officers to the public service.

THE Upton-on-Severn case, in reference to which some documents are elsewhere* inserted, has terminated much as we had expected. It appears that medical men have come forward to take the offices rendered vacant, on the part of the lâte medical officers, by an adherence to principles of which we cannot but approve. It is therefore quite clear that the profession is itself the cause of the unjust treatment of which so many hard-working country practitioners complain. Boards of Guardians must not be blamed for making the best terms which they can. If they can obtain medical services at a low rate, it would be contrary to all experience to expect them to come forward in a chivalrous way and offer to pay a higher sum than that which some members of the profession are ready and willing to take. If we contrast the conduct of the assistant-surgeons in the Navy with that of the general practitioners who are so eager to rush into Poor-law offices involving much work and a nominal salary, we can only infer that some sections of the profession are guided by very different codes of medical ethics. The naval medical officers feel themselves unjustly treated, and the Admiralty experiences the greatest difficulty in supplying their places: in fact, there are no candidates for offices, the acceptance of which involves professional degradation. In Poor-law districts, however, no difficulty is found in filling offices that become vacant under circumstances which are as honourable to the feelings of those who lately occupied them, as they are discreditable to the Boards of Guardians who have rendered resignation the only course to be pursued. Such is the lesson practically taught by the recent medical appointments to the Upton-on-Severn Union. To make appeals to the generosity of Parliament or of the Poor-Law Board, is, of course, a vain and profitless labour, when these are the results of an unwholesome professional competition.

In the meantime, the Committee of Poor-Law Medical Officers have taken the only step which was open to them: they have made a very judicious and temperate appeal on the subject to the President of the Poor-Law Board. We fear, however, it will end in nothing. The evil is in the profession itself: the technical objections to these appointments suggested by the Committee may be remedied, and the great grievance still remain unredressed. The true remedy will be found in a diminution of the number of licensed practitioners, and in the general adoption of a higher standard of medical ethics. Any *four* barristers acting in a similar way to others of their own profession, would have soon found their punishment in a total exclusion from respectable practice, and from the society of their brethren. There are some evils which no laws or public regulations can meet, and this mode of filling up vacant offices in Poor-Law Unions appears to be one of them. It cannot fail to create violent dissensions in the profession, and to extinguish those charitable feelings which should animate all who practise the healing art.

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* Page 772.

WE have more than once reminded practitioners that the only plan of registration now open to them, is that which is purely voluntary. Defective as this may be in some respects, it has been found of very great service. The Medical Directory, which has been published for several years, has proved a most useful guide to the residence, qualifications, and status of practitioners throughout England and Wales. But it has gone further than this. It embodies, for the first time, an attempt to separate qualified from unqualified practitioners, and this we consider is of such importance in a public view, that it is the duty of every qualified man to see that his name and titles are properly entered in its pages. Some recent revelations have shewn that unprincipled men have made false returns; but this is an evil inseparable from the want of an Act of Parliament, and a penal clause to assign the discipline of the treadmill to these wolves in sheep's clothing. In spite of these necessary defects, we believe that all who, like ourselves, have had frequent occasion to refer to the work, must have found it of great utility. We have therefore to invite practitioners to forward to the editors without delay, their names and qualifications: the latter should in all cases be fully and accurately described.

ALTHOUGH the return of the Registrar-General for Saturday last is less favourable than that of the preceding week, yet, it will be observed, the weekly deaths still fall short of the autumnal average by 47. An analysis of the causes of death shews us that the increase is chiefly due to scarlet fever and typhus. The registered deaths from *Cholera* amounted to 34, of which 23 occurred among adults, and 11 at the infantile period. On Monday there were eight cases in the metropolis, of which one was fatal; on Tuesday there were eighteen, of which seven were fatal; and on Wednesday nine, of which seven also terminated fatally. From these facts it may be inferred that the disease is on the increase; but, at the same time, its attacks are limited to a few localities, and to a comparatively small number of persons. We cannot, however, speak so favourably of the city of Edinburgh. The cholera appears to have shewn as much malignancy in the northern metropolis as in Moscow or St. Petersburgh. The attacks may not have been relatively so numerous, but they have been equally fatal. Thus up to the last date before us, October 31, there had occurred in Edinburgh 290 cases, and no less than 169 of these had ended fatally—a mortality equal to 58 per cent! In addition to these, ten cases had occurred in Portobello, of which five were fatal.

At the time of going to press, we have received the suggestions respecting the treatment of cholera patients, which have just been issued by a Committee of the Royal Colleges of Physicians and Surgeons of Edinburgh. The details regarding treatment are very explicit, and appear to us to be very appropriate. We shall publish this document next week. Among the medicines ordered, the pills, formed of acetate of lead and opium, suggested by Dr. Graves, occupy the first place.

By a second notification issued from the General Board of Health, in London, the provisions of the "Nuisances removal and Diseases prevention Act," are directed to be enforced throughout the whole of Great Britain.

Reviews.

Clinical Lectures on the Practice of Medicine. By R. J. GRAVES, M.D. M.R.I.A. &c. 2d Edition. Edited by J. M. NELIGAN, M.D. M.R.I.A. &c. In two volumes. 8vo. pp. 586, 570. Dublin: Fannin and Co. 1848.

WE depart from our usual plan, in taking this work out of its turn, for the reason that we are desirous of giving to our readers the views of its author on the treatment of cholera—a subject which, as the editor remarks in his preface, is now engrossing the attention of the profession and the public throughout Europe. It will be our duty, however, in the first instance, to make a few remarks upon the plan and object of these lectures. The first edition of the work appeared in one volume in 1843, and it has been so favourably received, that the author, on the present occasion, by the addition of many more lectures, has found it necessary to publish it in two volumes. The work is essentially what its title implies—a record of cases on all points of practice, with comments and suggestions such as would be likely to be made by a man of the author's experience and professional standing. More than one half of the first volume is occupied by the lectures on *Fever*, and in these Dr. Graves gives us a full and accurate account of the fatal form of typhus which has been of late years so prevalent in Ireland. One lecture is devoted to Yellow Fever, three to Scarlet Fever, and two to Intermittent Fever. We shall only remark of these, that the cases selected are well calculated to illustrate the effects of treatment. Two lectures are assigned to *Cholera*, and it is here perhaps that the labours of the author will be found to have the greatest interest at the present time.

Dr. Graves believes, in common with most professional men, that Spasmodic cholera is an imported disease. His description of its origin and progress is one of the best summaries of the history of this pestilence which we have seen, and the facts which he has adduced of its obviously contagious character are only confirmatory of what has been already published by Copland, Watson, and other eminent observers He justly remarks that the disease has never been known to traverse the ocean at a rate exceeding that of ships—a fact difficult to explain, if the spreading of the cholera is to be referred to mere atmospheric diffusion in an epidemic form. He also proves that the disease is really contagious, from the facts adduced by non-contagionists. We cannot enter into his analysis of Dr. Jackson's statements, which were intended to shew that the cholera in the United States was not contagious; but with respect to one argument to which an undue value has been attached, he remarks—

> "Why the cholera, *if an imported disease*, should have broken out nearly simultaneously in Quebec and Montreal, is very easily accounted for, since both are the receptacles of British and other foreign emigrants; on the same principle we must explain its appearance so soon after at New York, where no doubt it arrived by a separate importation from Europe—a circumstance which will prevent us from feeling the same surprise with Dr. Jackson, that between Quebec and New York *all the intermediate cities on the sea-board escaped*, at least for a few months. This is analogous to the exemption of Waterford and Wexford during several months that cholera raged in Dublin and Cork.* I gave Dr. Jackson's Report at much length, because it is intended to be conclusive against the theory of contagion; while it, in my opinion, contains strong internal evidence of a contrary tendency." (pp. 409-10.)

Many observers have remarked on the singular fact that cholera has shewn itself but little in countries south of the equator. Dr. Graves observes—

> "Cholera did not reach South America at all, a fact explicable by the great length of the voyage from the infected countries, which reason also protected the Cape of Good Hope, the West Indies, and New Holland. It is a curious fact that New Holland, for the same reason, has, until lately, been free from measles, scarlatina, and hooping-cough, although the colony is fifty years old. But now that the intercommunication between it and other parts of the world has become much shorter and more frequent, owing to the rapid spread of steam

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* The same fact has been recently observed in the ports of the Baltic. The disease has appeared in distant ports simultaneously.

> navigation, it has been visited by all these diseases." (p. 410.)

The manner in which the author extracts proofs of contagion out of statements which are intended to disprove this doctrine, may be illustrated by the following paragraph:—

> "Mr. Lardner, a very intelligent surgeon, and formerly a pupil of mine, has written a very interesting paper on the progress of cholera in Portugal.—Lancet, 1834-5, p. 314. He is a decided non-contagionist, but his facts seem to me to be strongly corroborative of the doctrine of contagion. Among other admissions, the following is almost conclusive:—'Lisbon was not visited by cholera for a considerable time after Aveiro, which fact may give the contagionist a lift, for during the siege there existed no direct communication by water between Oporto and Lisbon. The Miguelite batteries would not allow a ship to enter the Tagus, and Donna Maria's ships kept a strict blockade outside the bar.' The epidemic took six months to travel slowly by land from Oporto to Lisbon. Had the communication by sea between these two ports been open, no doubt it would have reached Lisbon sooner: in America how quickly it extended from one seaport to another.
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> "It is a remarkable circumstance, and one which ought to have great weight in the discussion respecting the contagiousness of cholera, that *cholera has in no recorded instance appeared in any place sooner than the ordinary modes of communication might have brought it from some infected station.* Again, it can easily be proved that *the rate at which cholera travels varies with the rapidity of that communication.* A few weeks were sufficient to transport it from the ports of Britain more than three thousand miles across the Atlantic to Canada, while it took six months to creep along the interrupted line of communication between Oporto and Lisbon.
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> "From the preceding observations it will appear, 1st, that cholera has had no fixed rate of progress; 2d, that it has spread in every direction, sometimes northwards, sometimes southwards, and at other times east and west, its route being determined not by the points of the compass, but by the great lines of internal and international communication.
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> "Cholera never got to any of the West Indian islands, nor to British (formerly Dutch) Guiana, Demerara, nor any of the embouchures of the great South American rivers, Amazon, Orinoco, or La Plata, though the soil and climate, with the immense tracts of inundated and swampy lands, would there seem most favourable to its development." (pp. 411-12.)

The last proposition we assign to the consideration of those sanitarians who rail against the Thames and the Serpentine.

As another proof that the disease does not observe the points of the compass, but rather the lines of human intercourse, it may be stated—

> "That cholera began at Naples, which carries on a perpetual commercial intercourse with Marseilles, about a year before it commenced in Rome! August, 1837. The disease travelled southwards in the north of Italy, setting out from France; northwards in the south of Italy, starting from Naples." (p. 412.)

We shall remark, on leaving this part of the subject, that we are glad to have the support of so able an observer as Dr. Graves, to the views uniformly advocated in the pages of this journal.

In respect to *treatment*, Dr. Graves tells us that he has tried calomel, and seen it tried in every form and dose, but it has signally failed; and from having witnessed the good effects of full doses of acetate of lead and opium, in a case of obstinate diarrhœa, he was induced to employ these medicines for the purpose of arresting the purging in cholera. It is well known that there are some cases in which no medical treatment will be of any avail. As the author observes—

> "It is known that there are some cases in which the disease at once assumes so frightful a malignity, that the patient is lost from the very moment of his seizure. This hopeless and intractable malignity is not peculiar to cholera; it is seen in fever, scarlatina, croup, measles, and hydrocephalus; in fact, there are certain forms of all diseases in which the best directed efforts of medical skill not only fail in curing the disease, but even in retarding its progress. But there are cases of cholera where the patient is not struck down at once, where the disease is not developed at once in all its awful intensity, and where time, brief though the space may be, is allowed for the play of therapeutic agencies. It is in such cases the acetate of lead may be given with some prospect of success, and it is by such cases alone, and not by those which are necessarily fatal *ab initio*, that its value is to be tested.
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> "Before we proceed further, I may observe, that the principle on which the calomel treatment was employed in cholera arose from almost constantly observing that there was a total deficiency of bile in the stools. Soon after the supervention of an attack, the alvine discharges were observed to be white,

and without the slightest tinge of bile; and on this very remarkable symptom practitioners dwelt almost exclusively, thinking that the patient's only chance lay in restoring the secretion of the liver. Now it is obvious that the absence of bile in the stools is no more a cause of the disease than is the deficiency of urea in the kidneys or of serum in the blood. Viewing the disease in this light, it would be just as reasonable to give a diuretic to restore the secretion of the kidneys, as to give calomel to produce a flow of bile. The liver ceases to secrete, not only in consequence of the injury done to its vitality by the proximate cause of cholera, whatever that may be, but also from a mechanical cause—namely, from a diminution in its supply of blood.

"It may appear strange that when the same given number of vessels go to the liver and come from it at all times, that the quantity of blood circulating in it should be greater at one time than another. I have not time at present to enter fully into this subject; but it is a fact admitting of sufficient proof, that the quantity of blood circulating in any organ is very much modified by the state of its capillaries. The quantity of blood also which goes to a gland varies according to the peculiar state of that gland, being greater during its period of active secretion than when it is at rest. But in a case of cholera, where the capillary vessels of the intestinal canal from the stomach to the rectum are actively engaged in taking up the serum from the whole mass of blood, and pouring it into the cavity of the digestive tube, there is an enormous drainage from the system, and there must be, consequently, a deficiency of blood somewhere. Now it would appear that a quantity of blood, sufficient for the purposes of secretion, is abstracted, not only from the biliary, but also from the urinary system; and hence it appears just as reasonable to give diuretics to restore the urinary secretion, as to give calomel to excite the secretion of the liver. It would be, *a priori*, as original a mode of treatment, and be equally as successful. I have therefore no hesitation in saying, that the calomel treatment has no claim to merit on the ground of theory, and, as far as I have observed the results of it in this country, it seems to be of no practical value in the treatment of cholera." (p. 417-18.)

We commend these remarks to the notice of our readers. No rational therapeutical principle can, it appears to us, be assigned to justify the exhibition of calomel in cholera. Even the pretence, that without reference to theory, the mercurial treatment has been successful, will not justify its administration. The experience of Dr. Graves and numerous other practitioners, shews that it has not succeeded. Dr. Graves has the credit of having first suggested the use of the acetate of lead in large and effectual doses. We shall here allow him to describe his plan of treatment:—

"The mode in which I administered it was this:—a scruple of the acetate of lead, combined with a grain of opium, was divided into twelve pills, and of these, one was given every half hour, until the rice-water discharges from the stomach and rectum began to diminish. In all cases where medicine promised any chance of relief, this remedy was attended with the very best effects. It gradually checked the serous discharges from the bowels, and stopped the vomiting. I need not say of what importance this is: as long as these exhausting discharges continue, as long as the serum of the entire body continues to be drained off by the intestinal exhalants, what hope can we entertain? What benefit can be expected from calomel and stimulants, when every function of the digestive mucous membrane seems to be totally extinguished, except that of exhalation, and while profuse discharges, occurring every five or ten minutes, are reducing the patient to a state of alarming prostration? Knowing the inevitable fatality of all cases where these discharges went on unchecked, I was happy at having discovered a remedy which seemed to possess more power in arresting them than any yet devised, and this impression was confirmed by the results of subsequent experience.

"That the acetate of lead will succeed where all other astringents fail, was proved by the case of Mr. Parr, of this hospital. Having got an attack of threatening diarrhœa, at a time when cholera was prevailing in Dublin, this gentleman used various kinds of astringents, and took so large a quantity of opiates, that he became quite narcotized, but without any relief to his symptoms. When I saw him he was as bad as ever, and was beginning to exhibit appearances of collapse. I advised the use of pills composed of acetate of lead and opium, in the proportions already mentioned, and had the satisfaction of finding that before night the diarrhœa had ceased. The pills are to be used one every half hour while the diarrhœa remains unchecked, but as it begins to diminish, the intervals between each pill may be prolonged, and in this way the patient may be gradually prepared for leaving off the remedy altogether. I have frequently given in this way as much as forty grains of acetate of lead in twenty-four hours, with great advantage to the patient, and without any bad consequences ensuing.

"It is unnecessary for me to say any more on this subject; if I chose to mention names, I could bring forward the names of many medical men in Dublin, whose lives, I am happy to state, were saved by the use of this remedy. I may, however, observe, that this mode of treatment has now become universal here, and that it has almost completely superseded the use of calomel and opium. I will confess that this fact is a source of high gratification to me, and I point also with pleasure to the fact, that since it became extensively known (as it did during the last invasion of the epidemic), the profession has gained more credit than before, and the number of cures has been proportionally greater.

"I may remark that the most convenient way of making the pills is to add five or six grains of powdered liquorice to the scruple of acetate of lead, and mixing into a mass by means of mucilage of gum-arabic. Year after year since I first made public the value of this plan of treatment in cholera, I have received the most gratifying letters as to its successful employment, from practitioners in India. The following observations of Dr. Parkes, who had the opportunity of witnessing two recent outbreaks of cholera in India in 1843 and 1845, while serving as assistant-surgeon in one of H. M.'s regiments, I look on as a most valuable testimony. I quote from his essay on Cholera, to which I have already referred. At page 207 he says:—

"'Of all the astringents which have been used in cholera, none has appeared so efficacious as the one recommended by Dr. Graves, viz. the acetate of lead. It is true that it did not arrest the purging in all cases, but it possessed this great advantage, that in the form of pill with opium, it did not seem to increase the irritability of the stomach, but rather to allay it. I used to give two or three grains with a quarter of a grain of opium, every half hour for the first two or three hours, and then every hour for a variable period according to the intensity of the case. It was often found that the vomiting first ceased, and then the purging; the algide symptoms were of course unaltered, but, as already said, no remedy yet known possesses any influence over them, and it is the best way to leave them altogether to themselves, and take the chance of their not advancing to their full extent. The only bad effect I ever noticed after the employment of these large doses of lead, was subacute gastritis; but this is a comparatively trifling affair, and can generally be overcome by relays of leeches to the epigastrium during the period of reaction.'

"Dr. Thom, surgeon of the 86th regiment, in an account of the cholera as it affected that regiment at Kurrachee in 1846, thus speaks of the combination:—

"'The acetate of lead, in doses of one, two, or three grains, and one-eighth of a grain of acetate of morphia, was employed to stop those profuse watery dejections which continued in some cases after reaction had taken place; and in this point of view it was a most useful remedy. Of course in those cases where vomiting and purging are the first symptoms, and collapse appears to be their consequence, the early use of this remedy was resorted to, and with very good encouragement.'" (pp. 419-21.)

It is no small compliment to Dr. Graves, that the suggestions for the treatment of cholera patients, just issued to the Parochial Boards by the Royal Colleges of Physicians and Surgeons of Edinburgh, include among the medicines, the pills of acetate of lead and opium, which are directed to be kept constantly at each station. This will ensure a full and fair trial for this mode of treatment.

The lectures on cholera are followed by a good description of the *Influenza*. The first volume is concluded by the lectures on Diseases of the Nervous System.

The second volume includes an account of Diseases of the Respiratory Organs, of the Heart and Digestive Organs, — the Kidneys,—Diseases of Females,—and Syphilis.

Our readers will perceive from this brief analysis, that Dr. Graves's work is not a systematic treatise on the practice of physic. It comprises the results of clinical practice, as illustrated by actual cases; and these are so numerous, and are so fully detailed, that these volumes will be found most valuable for reference. Great praise is due to Dr. Neligan for the care with which he has performed his part as editor.

VISITING MEDICAL OFFICERS OF LUNATIC ASYLUMS.

THE following gentlemen were appointed at the Michaelmas General Quarter Sessions for Gloucestershire. Visiting medical officers for the various Lunatic Asylums in that county:—William Philpot Brookes, M.D. Cheltenham—Gilbert Lyon, M.D., Clifton —Chas. Cornwall, Esq., Fairford.

OBITUARY.

OCTOBER 10th, from prussic acid, taken, it is supposed, in an over-dose, Frederick Nesbitt, M.D. M.R.C.S., Yeovil, Somerset.

Proceedings of Societies.

PATHOLOGICAL SOCIETY OF LONDON.

Monday, Oct. 16th, 1848.

Dr. Copland in the Chair.

Dr. Ogier Ward read the following case of

Pleurisy — Empyema — Paracentesis — Spontaneous evacuation of pus through the walls of the chest; and, after closure of the opening, evacuation of pus by the bronchi, producing pneumothorax—Recovery.

The patient was exhibited to the Society.

August 6th, 1848, a boy, æt. 6, about six months ago had pleurisy of the left side, which was followed by empyema in about a month afterwards, when first seen. At this time there was a hectic condition, the bowels being pretty regular, urine depositing lithates in excess. The upper part of the left side of the chest had sunk considerably, and the lower bulged out, with much less motion of the intercostal muscles than on the right. The heart was pushed towards the right side, so that its pulsations were visible in the epigastrium, while there was dulness on percussion considerably to the right of the median line; there was also dulness more or less over the whole of the left side of the chest, particularly below the level of the fifth rib, over which œgophony was audible, and also at the back of the chest, below the scapula, the respiration being bronchial, with mucous rattle over the upper part, except a small space in the interscapular region, where the vesicular murmur was still audible. The internal and external use of mercury, with bark and iodide of potassium, were used, without removing the empyema, though it seemed occasionally to vary in quantity; and as it had threatened to point externally once or twice, and there was œdema of the parietes, the operation of paracentesis was performed May 19th, about six weeks from the time of his being first seen, with a trocar and canula inserted between the sixth and seventh ribs. About half a pint of healthy pus was evacuated. The child's health immediately improved, though the fluid again collected in a few days, the external wound having healed.

After the operation, the heart returned to the left side of the chest, but much higher than natural, its whole surface appearing to be applied to the wall of the chest from the interval between the second and third ribs to an inch below the nipple, over the whole of which space its pulsations were perceptible to sight, and it has retained this position ever since. In other respects the left side seemed to be much the same as before the operation; for though the fluid was evacuated, yet the stomach and colon seemed to occupy the vacant space up to the level of the point where the trocar entered the chest, so as to render the lower part of the chest very resonant, while the upper part still continued contracted, as though the lung were bound down by adhesions. The physical signs also remained much as before the operation, with the exception that the dulness did not occupy such a great extent of the lower part of the chest.

In about six weeks after the operation, the skin over the space between the fifth and sixth ribs, where it had threatened to point previously, again became inflamed, and gave way, giving exit to a considerable quantity of healthy pus, which has continued to flow ever since in varied quantity, with five or six intermissions of a week or nine days, on which occasions he has had cough, with fever and dyspnœa, until the discharge returned. At present it scarcely amounts to a drachm a day.

The left side of the chest is now much contracted at the upper part, the shoulder having sunk, and the ribs being quite flat to a level with the discharging orifice; but it bulges considerably below, from the presence of the stomach high up in the hypochondrium. The spine is much curved laterally, so that in walking he seems as if suffering from disease of the hip. He has become extremely emaciated, and the hair over his body and limbs has grown very thick and long. Percussion is dull over the flat part of the chest, but sonorous below. Respiration is bronchial, with mucous rattles over the dull part, and down the side of the spine, but towards the base of the lung the vesicular murmur is still audible.

Sept. 28th.—Three weeks ago, the wound being still open, a probe did not penetrate above three-quarters of an inch, and in a few days afterwards, it healed up, and ceased to discharge for ten days, during which time the cough became very troublesome, with great dyspnœa; and when he expectorated, the matter resembled the purulent discharge from the wound, instead of being simple mucus as heretofore.

To-day the side is still more collapsed below the clavicle, and the shoulder thrown more forward. The sore still discharges a little healthy pus. Upon percussion, the whole space from the clavicle to the fourth rib, which has hitherto been dull, is now preternaturally resonant, far exceeding the sound of the right side in clearness, and having such a complete amphoric character as to strike the attention of his mother, who compared it to the sound emitted by a bottle when struck; and there is cavernous respiration, and distinct pectoriloquy, with mucous rattles over the same space, but no metallic tinkling. The respiratory and vocal sounds elsewhere remain as before.—Ordered to lie as much on the affected side as possible; but if he is placed on that side in bed, he turns to the other before he falls asleep. He is gaining flesh and strength.

Oct. 4th.—The discharge ceased, and the orifice closed on the 29th ult., and since that time his improvement has been more rapid than it has ever been before, having neither fever, cough, nor expectoration, nor any night sweats.—Omit all medicine.

14th.—The orifice is depressed, and closed by a scab. He is fatter and stronger, and can now sleep on either side. The left side of the chest is more expanded, though there is still a difference of 1½ to 2 inches in its circumference, compared to the right side. The shoulder is higher, and the spine straighter, and he is less hairy than before. The pectoriloquy and resonance still exist, but the latter in a less degree, and the seat of the mucous rattle is now confined to, or is loudest at, a point an inch and a half to the left, and one inch below the level of the nipple. Percussion is still painful over the resonant part, particularly near the orifice.

Dimensions of chest:—

	Inches.	
	Right side.	Left side.
Under arm-pits . . .	10¾	9¼
Round chest, over epigastrium	11½	9½
Round base of chest . .	10¼	9¼

The sternum is projected forward and towards the right side by the increased expansion of the right side, which is very resonant. The respiratory murmur is puerile over the whole of that side of the chest.

Oct. 16th.—The resonance on percussion of the left side of the chest is much less in front and above the cicatrix of the orifice; but the back of the chest is still dull, though the respiratory murmur is audible over this part. In front the respiration is less cavernous, and the mucous rattle is chiefly heard at the close of the inspiration, and is still loudest at the point above mentioned below the nipple; behind it is most audible, below the spine of the scapula, where the respiration has somewhat of a whistling or blowing character. Pectoriloquy is very distinct over the resonant part, but in every respect there is improvement since last report in the physical signs, indicative that the lung is again expanding itself, and that the opening into the bronchi is closing.

The main point of interest in this case is the improvement of the patient after the establishment of so severe a lesion as empyema, with perforation of the walls of the chest, and fistulous communication with the bronchi. Cases of pneumo-thorax are not very rare, but I have never seen an instance of recovery from such a complication as the present, and I can only find two recorded by Mr. Guthrie in his lectures—viz. one mentioned by Dr. Davy, and the other in the case of Lord Beaumont. The absence of metallic tinkling in this case (unless the mucous rattle or clicking sound at the close of inspiration may be supposed to represent it) is worthy of note, as throwing some doubt upon the physical cause of this sound, as is also the rapid improvement of the patient immediately after the closure of the external wound, though at the same time a complication of usually far more fatal character was established by the perforation of the bronchus.

The rapid growth, and again the falling off of the hair of the body and limbs, is interesting in a case that has not exhibited any scrofulous complications.

Dr. Peacock exhibited a specimen of

Spontaneous rupture of the aorta, dissecting aneurism.

This preparation was removed from the body of a man, 44 years of age, who had been of intemperate habits, but had never suffered from rheumatism. He dated the first symptoms of cardiac disorder to a blow which he had received on the chest twelve years before. When admitted a patient of the City of London Hospital for Diseases of the Chest, on the 30th of June last, he stated that he had been very subject to palpitation of the heart for the previous year and a half, but had been much worse since December 1847. He was at that time in much pecuniary embarrassment, and when out one morning was suddenly seized with extreme difficulty of breathing, palpitation, pain in the region of the heart, and faintness, and with difficulty reached home. From this time he was never able to sleep in the recumbent position, and was subject to attacks of a similar description, generally once a week. These attacks usually came on at about one o'clock in the morning, and after continuing, with variable severity, for half an hour or more, gradually subsided. The difficulty of breathing and palpitation under which he at all times laboured were much increased on exertion, and especially by ascending stairs. Latterly he had a hard dry cough, and scanty expectoration, very rarely tinged with blood. On examining the chest, the dulness on percussion in the region of the heart was found much extended beyond its natural limits, and there was a loud and rough double murmur over the whole of the front of the chest, but most distinctly between the left nipple and sternum. The pulse was equal in the two wrists, feeble, but not of the regurgitant character.

At the end of August, after having been some time in the country, he was suddenly called to town. On his way to the railway station, he became much excited, fearing he would be too late for the train, and soon after he had started he suddenly experienced a peculiar sensation commencing in the lower part of the abdomen, followed by pain in the præcordia, and extending thence to the spine of the back: he became faint, and breathed with great difficulty. When he arrived at home, he was seen by Mr. Mackey, and found very much collapsed; the extremities cold; he had entire suppression of urine, and complained of pain in the region of the heart and in the back. He was visited by Dr. Peacock in the evening. At that time the collapse had in some degree subsided; he was completely collected, and was kneeling on a sofa, with his head hanging over the end. The respiration was extremely difficult, the pulse was feeble and somewhat vibratory; the extremities were cool, and he complained of agonizing pain in the region of the heart, and extending thence to the back and down the spine from the occiput. The suppression of urine continued. A loud and rough murmur attending the impulse of the heart was audible over the whole front of the chest. It was less distinct beneath the nipple than at the upper part of the sternum. A softer murmur was also heard with the diastole of the heart, more especially at the lower part of the sternum. He experienced some relief from the means had recourse to, but about one o'clock the following morning suddenly expired.

On examination, the pericardium was found greatly distended with serum, and the heart was enveloped in a firm dark-coloured coagulum. On removing this, a ragged slit, about an inch in length, was detected in the pericardial covering of the origin of the aorta, extending transversely immediately above the base of the right ventricle. The heart was of large size, weighing not less than 20 oz. The attached pericardium displayed some concretions of old lymph on the surface of the left ventricle, and was thickened and opaque on the right ventricle. The right ventricle was large, but its walls of the natural thickness; the left ventricle was hypertrophied and dilated. The auricles were natural. The folds of the mitral valve were thickened and opaque. The aortic valves were much thickened and shortened at their free edges, and the angles of the right and left valves were adherent, so as to leave an aperture when the valves were expanded allowing of slow regurgitation. The ascending aorta was dilated, and its coats thin and studded in places with atheromatous deposit. At the anterior and right side of the vessel, about one inch above its origin, there was an irregular slit ¾ of an inch in length, extending obliquely across, and involving the internal and nearly the whole of the middle coat. From this rupture blood had escaped, and had become extensively infiltrated into the subserous cellular tissue, and had finally escaped through the rupture in the serous covering into the sac of the pericardium. At the posterior part of the root of the arteria innominata, there was found a second rupture, about one-third of an inch long, which extended through only part of the middle coat, and from which the blood had insinuated itself between the laminæ of the middle coat, producing a separation extending round a considerable portion of the circle of the transverse and descending aorta, for a distance of about two inches behind the origin of the left subclavian artery. The descending aorta was decidedly small in capacity.

The remarks made by Dr. Peacock, in reference to this case, were—first, that the occurrence of two ruptures in different parts of the vessel sufficiently attested the ready lacerability of the arterial coats. The rupture at the root of the arteria innominata was probably that which had first occurred, while the production of the second and larger laceration in the ascending aorta might be due to the obstruction to the flow of blood along the transverse and descending portions of that vessel occasioned by the pressure of the blood which had escaped between the laminæ of the middle coat. The second point of interest consisted in the separation of the coats of the vessel, constituting the first step in the product of a dissecting aneurism, having occurred in the laminæ of the middle coat. This, there is reason to believe, is always the case in dissecting aneurisms, though in some cases on record the sac has been described as situated between the middle and external coat. In two cases so described, Dr. Peacock had satisfied himself that there had been an error in the description given, the sac being situated in the laminæ of the middle coat in both.

Mr. Birkett exhibited a specimen of

Extensive disease of the urinary organs,

taken from the body of a man æt. 43, admitted into Guy's Hospital, under Mr. Cock, with constitutional symptoms of the absorption of urea. He had been married five years, and a year or two prior to marriage had contracted gonorrhœa, for which affection he underwent no treatment. The urine was very scanty, and loaded with pus, and a very small instrument only could be passed into the bladder. He died on the fourth day after admission. On the post-mortem examination, the meningeal vessels were found congested: there was more serous fluid than usual in the ventricles, as well as subarachnoid effusion. Both kidneys were greatly disorganized and dilated; the secreting structure alternately soft and hard, with much yellow deposit and incipient suppuration. The pelvis and calyces filled with pus, but the mucous membrane not abraded. The ureters enormously dilated and convoluted. The bladder hypertrophied, and containing some puriform fluid. The prostate enlarged, the interior being filled with pus, and the ducts much dilated. The corpora cavernosa, and the corpus spongiosum, almost black from congestion; the latter more rigid than usual. The prostatic portion of the urethra was dilated; the membranous and remaining portion contracted. The seat of the stricture was at the angle formed by the crura penis, and by its left side the urethra was pushed forwards, forming a kind of pouch, doubtless from the continued efforts of the man to void his urine. No trace of a false passage.

Dr. Hare exhibited a specimen of

Intussusception of seven inches of the ileum, together with the appendix vermiformis, into the colon, through the ileo-cæcal valve.

Frederick H., æt. 4⅓ years, was admitted into the St. Mary-le-Bone Dispensary, on Monday, October 2nd, and was first seen by Dr. Hare about 4 o'clock P.M. He from the age of eighteen months had been troubled with ascarides.[*] When six months old, he had an inflammation of the chest, accompanied with some cough: since then he had been subject at times to a cough, but not to a constant one. For a week previous to his present attack, he had not seemed quite so well and lively as usual, but he continued his play as before, and did not complain of any pain.

On Thursday evening, Sept. 28th, before going to bed, he complained somewhat of soreness about the anus. On examining it, a few thread-worms were seen, as had frequently been the case before. On the following morning he got up and played with some other children in the house till between ten and eleven o'clock, when he suddenly complained of great pain in the lower part of the abdomen, to which he pressed his hands. He said he wanted to go to stool, and went two or three times in the ensuing quarter of an hour, but did not pass anything; his eyes looked wild; the pain continued severe, and about eleven o'clock he vomited all he had taken during the morning. Every half hour or less he continued to go to stool, but fruitlessly, except that about one o'clock, and passed a small lump or two of fæcal matter. The pain then for a while became apparently somewhat less than at first, and from about 2 till 3½ P.M. he had some sleep.

At 4 P.M., he passed a clot of blood, and still continued to go to stool two or three times an hour, till a little after 12 on the Saturday. On many of those occasions he passed some pure dark-coloured blood, with a little slimy matter, the whole of which together, amounted, it was said, to eight or ten ounces. The pain in the abdomen remained intense; he would only stay for a very short time in any one position, resting most frequently doubled up on his hand and knees, so as to relax as much as possible the abdominal muscles. He drank a great deal, and with avidity, but always vomited soon after. On the Saturday afternoon he went much less frequently to stool, and on the Sunday only twice, but the other symptoms, the pain and vomiting, remained much as before, up to the time when first seen by Dr. Hare (Monday afternoon). When he was first attacked, the vomited matter contained a considerable quantity of bile, but not afterwards; it was said to have smelt *sour*, but no fæcal odour was observed.

His countenance was expressive of the greatest anxiety and pain; the eyes were somewhat sunken, and the skin around the orbits rather dark; he was constantly calling out and moaning with pain, which he referred to the abdomen, especially about and below the umbilicus. His intellect clear; no delirium or convulsions. Pulse very quick. Complained of constant thirst, and drank frequently, but he almost always retched and vomited after taking anything. The abdomen was more swollen and prominent above the umbilicus than below it; the prominent part was distinctly marked by two swellings going transversely across the epigastric and upper part of umbilical regions, and separated from one another by a slight depression: both were tympanitic on percussion, as was, indeed, all the rest of the abdomen; fluctuation perceptible. There was much tenderness on percussion or pressure over the whole of the abdomen, but none on simply pinching up the integuments.

No cause could be assigned for the commencement of the attack.

He obtained but little relief from the treatment adopted, and gradually sank, and died about 1 A.M. on Tuesday, Oct. 3rd.

The *abdomen* presented externally the same aspect as during life. On opening it, the two transverse prominences between the ends of the sternum and umbilicus were found to be caused, the upper one by the stomach, whose larger curvature was tilted unusually forwards and upwards; the lower one by the *ascending* colon, which had become so displaced as to occupy nearly the position of the transverse colon, the caput coli being situated just above and but a very little to the right of the umbilicus. Both this portion of the colon and the stomach were much distended with wind, as was also one coil of the small intestines. Scarcely any effusion into the peritoneum; no lymph; marked redness of most parts of the small intestines, especially where the different coils of them were in contact with each other. No redness of colon or of peritoneum covering the walls of abdomen. On examining the intestines it was discovered that there was a very considerable intussusception of ileum, and of the accompanying mesentery, through the ileo-cæcal valve into the colon, and that the appendix vermiformis was likewise carried through the valve; two of the mesenteric glands close to the point of strangulation of ileum were enlarged. When the cæcum was opened, the ileum was found to have protruded into it to the depth of three and a half inches, so that at least seven inches of the small intestines must thus have been forced through the valve. The intussuscepted portion was of a deep-red colour, and contrasted remarkably with the pale colour of the mucous membrane of the colon: but there was no appearance of gangrene or sloughing. The strangulated portion was so swollen and so firmly encircled by the ileo-cæcal valve, that any effort to withdraw it seemed more likely to tear the substance than to succeed. Close to the valve, on the portion of the mucous membrane reflected from the colon on to the ileum, there were several shreds of lymph, some of them nearly half an inch in length. The mucous membrane of the rest of the ileum was red in patches, while the solitary glands, as well as those of Peyer, were much diseased throughout its whole length. At about the middle of the ileum there was another slight intussusception; this one could be very easily reduced, and had probably only occurred towards the last periods of life. There was a little fluid, but scarcely any fæcal matter in the small intestines, and none in the large.

Mr. Morton exhibited a specimen of

Gun-shot fracture of skull: singular course of the ball.

A gentleman was brought, in August 1848, to University College Hospital, having committed suicide by discharging a pistol into his mouth. The ball had traversed the hard palate, and ascending through the nares passed into the skull, breaking the sphenoid bone on the right side of the mesial line, shattering the right anterior clinoid process and adjacent part of the sella turcica and optic foramen. After piercing the right hemisphere of the brain, the ball had struck the inside of the calvarium, dividing the dura mater on the right of the longitudinal sinus, and breaking the parietal bone to the extent of a crown piece, producing a stellated fracture, the central portions of which were elevated considerably underneath the pericardium, which remained intact. The ball had then changed its course, being driven downwards and outwards through the right hemisphere again, and was found lying in the middle lobe, close to the foramen spinosum. The outer table of the parietal bone was broken into eight fragments, each of considerable size, while the inner table presented but one fragment, and that of the size of half a crown. The ball was completely flattened and jagged.

2. *Salivary calculus taken from the sublingual duct of*

A middle aged woman, who came under the care of Mr. Morton. She stated that for about a year previous she had experienced considerable inconvenience underneath her tongue, chiefly felt while eating her food, when the sensation was as though the secretion of the saliva was rapidly increased. About three months since, notwithstanding she had frequently examined the part affected, she discovered a little tumor, which was hard to the touch, and of a whitish-yellow colour. Of late it had increased in size much more rapidly than at first. Its presence interfered with her powers of mastication, but not with her speech. After incising the mucous membrane which covered it, the calculus was readily removed. It was of the size of a horse bean, of white colour, and irregular shape.

3. *Enchondroma of the fifth metacarpal bone, of considerable size.*

A boy, aged 16, was admitted into University College Hospital, under Mr. Morton. He was the subject of numerous swellings on the fingers and metacarpal bones of both hands. There were fifteen or sixteen of these swellings, all but one, however, of small size, and not interfering with his comfort; one, however, occupying the ulnar border of the left hand, was so large as to prevent him from following his occupation. It was of the size of an orange, and situated over the fourth and fifth metacarpal bones, the former of which it overlapped in such a manner as to render it doubtful whether it might not be attached to it. The shell of the tumor appeared to be semi-elastic, as if formed by the gradual distention of the hard dense portion of the metacarpal bone.

The tumor was exposed by dissection, and the extensor tendons of the little finger were found spread out into a broad thin tissue over it. The first intention was, if possible, to remove the new growth, and to preserve the finger, but this was found to be impracticable. Therefore the finger and metacarpal bone were removed together, with the tumor, which last measured six inches in circumference in both directions, being of an ovoid figure.

On making a section, the tumor consisted of a white cartilaginous mass, with here and there small cellular cavities, which had apparently commenced its growth in the medullary cavity of the metacarpal bone, and slowly distended the more dense walls into a thin shell, which slightly yielded, with a crackling sensation, under the pressure of the finger. Though overlapping the ends of the bone, the articular extremities were free from the disease. The patient stated that the slightest blow was certain to be followed by a tumor of the same kind. All the other tumors had been stationary for a considerable time, and although they gave his hands a knotty appearance, they did not prevent him from performing his work.

The Meeting adjourned to November 6, at 8 P.M.

MEDICAL SOCIETY OF LONDON.

Monday, October 23, 1848.

MR. HANCOCK, PRESIDENT.

Cholera at Peckham.—Use of chloroform.

DR. CLUTTERBUCK had seen, since last week, several cases of cholera at the Lunatic Asylum at Peckham, which contains 500 patients; of these, about 30 had been attacked, and five had died. Many of the cases had been of the most severe kind, with all the symptoms of malignant cholera. At the beginning of the attack, two severe cases were treated with acetate of lead and opium, and both died. He had found a simple plan of treatment the best. Calomel and opium could not be administered with safety, and large doses of laudanum did great mischief. The administration of chloroform had been productive of the greatest benefit. The spasms and pain were almost immediately relieved, and the patients became composed, and enjoyed a kind of sleep. These results took place after the use of chloroform for about a quarter of an hour. The effects, so far, had been immediately and uniformly good. He considered it much to be preferred to opium, for the relief of the painful spasms attendant upon cholera. In answer to questions, Dr. Clutterbuck said the Asiatic cholera, in his opinion, differed from the common cholera of this country only in degree. In the fatal cases at Peckham, all the worst features of what was called the Asiatic cholera presented themselves. The pulse was imperceptible; the skin cold and blue; the features sunken; the depression complete; and the evacuations watery. The case was quickly fatal. There was no ground for questioning the identity of the disease. He insisted upon the necessity and value of treating the disease by simple remedies. Moderate doses of brandy, and the application of external heat, were the chief indications in the early stages. He believed that there was no specific for the disease.

Mr. DENDY differed from Dr. Clutterbuck, as to the identity of Asiatic and English cholera. He had thought, years ago, that Dr. Clutterbuck had acknowledged a difference between these diseases. It had been his intention to try chloroform in the first cases of cholera which he might see; but he considered it would only act as a substitute for opium by relieving spasm. This was, however, an important point in the treatment, and he was glad to hear of the success of the remedy. He considered it a great mistake to suppose that cholera was always preceded by diarrhœa; in the worst cases there was sometimes no disturbance of the bowels. The disease would come on suddenly without any premonitory symptoms, and the patients would succumb. He regarded cholera, in its essential nature, as dependent on an alteration in the crasis of the blood; and if we could not get blood, the patient would soon sink. He had, in some cases, scraped away the solid particles of the blood which had assumed the consistence of pitch. If you could get rid of all the watery constituents of the blood, you would produce a state similar to cholera. As to treatment, why should not large doses of calomel, said to be so effective in India, be equally beneficial here? He was quite sure that what was called "simple treatment" would have no effect in the blue stage of cholera. With respect to the hot-air bath, he was quite sure that in the last visitation many patients were boiled and baked to death.

Dr. CLUTTERBUCK said that no proof existed of the cholera being dependent on a condition of the blood. Previous to the appearance of the disease at Peckham, the drains and cesspools had been cleaned out. All were more or less affected by the smells arising from this proceeding, and cholera made its appearance in thirty persons.

Mr. HEADLAND agreed with the remarks of Mr. Dendy respecting diarrhœa as a premonitory symptom of cholera in its more malignant form. Was there suppression of urine in Dr. Clutterbuck's cases? He hoped that chloroform might prove a valuable agent in this disease, not only as relieving one of the more painful symptoms, but exerting a sort of antiseptic influence on the blood. If the cases mentioned really depended on the effect of the sulphuretted hydrogen evolved from the drains, we could understand why chloroform should do good in the cases detailed. This, however, he did not regard as a common cause of cholera, because it existed independent of this cause. If chloroform did good in cholera generally, then indeed we had made one important discovery.

Dr. **Clutterbuck** did not think diarrhœa as essentially a forerunner of cholera. In some cases it had hardly existed at all; in some it was severe; in some, again, there was vomiting; in others, none. He regarded the term *cholera* as a misnomer. He did not recommend chloroform as a specific, but to relieve the painful symptoms. It was often given from time to time by the experienced nurses of the establishment alluded to; and always afforded relief. The urine, in these cases, had been scanty, but not quite suppressed.

Dr. L. **Stewart** concurred that, like opium, chloroform would be advantageous in relieving symptoms, but it did not address itself to the cause of the disease. With respect to the cases of cholera at Peckham, he was by no means inclined to undervalue the influence of pure air, but this could not be the chief cause of cholera, though it was an auxiliary. for cholera occurred in districts where the air was pure and good, and there was plenty of ventilation. As to the cause it was a morbific poison.

Mr. **Garrett** described the cases which had occurred in Peckham Asylum. Some of them were of the most malignant kind, and the patients must have died in the stage of collapse had not assistance been at hand. The attack came on very suddenly, and all the worst symptoms of the disease immediately developed themselves. Brandy and capsicùm were first administered, the patient being in bed. Chloroform was then resorted to: this agent he considered to be beneficial by producing reaction. By forced respirations the pulse rose, and by the time the patient became fully under the influence of the chloroform, the body was warm. He believed that without the chloroform there would have been no reaction, for opium would not have developed its effects under two hours. The cases were undoubtedly those of spasmodic cholera. The opening of the drains only acted by developing the disease, and did not produce it *per se;* for the drains were opened on the Monday, and the first case of cholera developed itself on Thursday. The urine was scanty, but not suppressed.

WESTMINSTER MEDICAL SOCIETY.

October 21, 1848.

J. **Webster**, M.D., F.R.S., **President**.

The Society commenced its meetings for the session this evening. The rooms in Saville-row were completely crowded, reminding us of the society in its most palmy days. About sixty fellows and visitors were present.

The **President**, on taking the chair, gave an inaugural address on the state of the society, which was in every way prosperous; in the course of his remarks, he made the following observations with reference to

CHOLERA, AND THE HEALTH OF LONDON.

Before dismissing the subject of cholera, it must be interesting for the fellows to know, notwithstanding the anxiety now prevalent respecting that malignant disease, that hitherto it has not made much progress in the metropolis; and if its present fatality be compared with other epidemic maladies, we have as yet really not much reason for alarm, as proved by the fact, that during the six weeks ending on Saturday, the 16th of October last year, the number of fatal cases of this disease in London was twenty-six; whilst the total number of deaths caused by the same malady throughout the entire metropolitan population, during the six weeks ending on Saturday last, the 14th instant, amounted to sixty-seven, being, as yet, only a little more than double the mortality by cholera during the same number of weeks in the previous year. Compared with this, it is instructive to mark the different results observed in another epidemic now prevailing in London with great severity, but which, notwithstanding, does not call forth much remark, or causes anxiety to the extent it deserves—I mean scarlatina, also discussed last year in the society; but which, unfortunately, is now so malignant, that hundreds of victims have been recently sent to an untimely grave, according to the registrar-general's reports. In these tables it is stated, that during the six weeks terminating on Saturday, the 16th of October, 1847, already quoted in reference to cholera, 302 individuals died in London from scarlatina; whereas, during the six weeks ending on Saturday last, the 14th inst., as many as 972 persons have sunk under that virulent complaint; or upwards of quadruple the average mortality by the same disease in the previous five autumns. Without undervaluing the importance of the epidemic which attracts so much notice, I think such a dangerous malady as scarlatina deserves even as great attention from medical men and the public as cholera—more especially seeing the subjects of its attacks are usually children, or young people just entering upon the morning of life; whereas the victims of cholera are generally drunkards and persons of worn-out constitutions, or those who have set every hygienic rule at defiance. Scarlatina being, however, a disease of frequent occurrence in this country, and although it annually carries off thousands of individuals, hitherto no boards of health have existed; no quarantine laws, and very few sanitary measures, have been put in force by public bodies for preventing the approach of this malady, the scourge of youth, notwithstanding its highly infectious nature. But this is only another illustration of the prevailing disposition in the minds of many persons to view whatever is familiar with indifference, whilst anything new or uncommon is sure to attract attention. It will also be instructive to recal to our recollection the invasion of the epidemic influenza, which was so fatally prevalent in the metropolis at the early part of last winter, when 1213 persons died from that complaint during six weeks ending on Saturday, the 8th of January last. At the same time, the total deaths registered from all causes were increased to an extraordinary extent, being so high as 2454 in one week, and 2416 in the subsequent—instead of 1046, the ordinary weekly average of previous seasons. Contrasted with this plague-like mortality, it must be gratifying to hear that London, comparatively speaking, is not at present unusually unhealthy, notwithstanding the actual presence of cholera, the great malignity of scarlatina, and the prevalence of typhus, by which disease 424 persons have died in the metropolis during the last six weeks, instead of 260, the averaged deaths by typhus of a similar period during the five preceding autumns. Such facts are important; and although the cholera now occasions considerable anxiety, the total deaths from all causes, throughout the metropolitan population, have actually diminished, especially during the last fortnight, notwithstanding the prevalent epidemics. This satisfactory state of the public health in London is proved by the mortality tables, which show, that instead of the weekly average of 1154 deaths, as in the last five seasons, during the week ending on Saturday, the 7th October instant, 1005 persons died from all causes in the metropolis, and only 991 in the week terminating last Saturday, the 14th; thus making an actual diminution of not less than 312 deaths in the two weeks now referred to, being an increase of fifteen and a half per cent. last year over the two similar weeks of the present season. I now mention these important facts to the Society, not to paralyse exertion, but as useful statistical data, to which reference should be made in order to arrive at correct conclusions when an epidemic like the cholera prevails in the community; and to show how far the average mortality is thereby affected.

Case of Prolapsus of the Funis at the Second Month of Pregnancy.

Mr. I. B. **Brown** related a case of this rare phenomenon. The subject of it was thirty years of age, and the mother of three children. She was threatened with abortion, and after two or three attacks of hæmorrhage, attended with expulsive pains, in one of these the cord was found to be presenting in a loop. The following day a severe pain came on, and the cord burst. This was followed by profuse hæmorrhage, and the expulsion of the fœtus. The placenta was found to be nearly bloodless. In consequence of the severe pain experienced in removing the placenta, the patient was placed under the influence of chloroform. It was quite successful, and she is doing well.

Mr. **Hird** afterwards read a paper on the

Pathology and Treatment of Cholera.

After giving an account of the disease, and describing the symptoms in a highly graphic manner, he proceeded to detail the post-mortem appearances which he had observed in twelve cases of the disease. In speaking of the treatment, he reviewed the various remedies that had been proposed for the disease, and stated his conviction that no known remedies have any specific power of counteracting the peculiar agency of the poison. In order to attain even a moderate amount of success in the treatment, he considered it absolutely essential to the appropriate administration of remedies, that the pathological condition of the several internal organs of the body should be carefully observed, and the treatment directed in accordance with our views of the actual state of the malady. On the first appearance of symptoms of cholera, three grand objects are to be attained—viz. the arrest of the frequent evacuations from the bowels; the rousing of the vital energies of the patients, so as to enable them to resist the influence of the morbific poison; and the return to a healthy condition of the secretions and excretions of the body. In the first stage of the disease, Mr. Hird found, in those cases where bile was plentiful in the evacuations, that scruple doses of the compound chalk powder, with opium, in infusion of cusparia, with a little compound spirit of ammonia and spirit of cinnamon, were of great service, and frequently checked the further progress of the disease; and in cases where the evacuations were watery, and contained very little or no bile, a powder containing five grains of calomel and half a grain of opium, administered immediately, and followed up with a grain of calomel, a quarter of a grain of opium, two grains of cayenne, and five grains of sugar, every half-hour or hour, in proportion to the symptoms, tended to restore the secretions much more effectually than the one or two scruple doses of calomel, and two or three grains of opium, repeated at longer intervals; and that the rapid exhaustion which frequently followed the use of the latter was rarely observed. When the symptoms increased in violence, and were not checked after about three doses of the above, and when the characteristic rice-water evacuations, and other symptoms of the second stage, set in, Mr. Hird found the greatest benefit from the acetate of lead, in two or three grain doses, in combination with five minims of Battley's solution of opium and spirits of cinnamon, every half-hour. Immediately before administering the acetate of lead, a mustard emetic was given; and simultaneously with the use of the medicine, an enema of starch, turpentine, and a little laudanum. A mustard poultice, or a flannel wrung out of hot water, and saturated in a mixture of equal parts of liquor ammoniæ and turpentine, and frictions to the chest, abdomen, and extremities, were steadily persevered in. By these means the functions of the heart and lungs were kept up; internal congestions were, as far as possible, prevented, and time thus afforded for the system to overcome the morbific poison. In the stage of reaction, the treatment applicable to typhoid fever was called for. Bloodletting, the author considered, required great discrimination in its use; the abstraction of blood generally was equivalent to the abstraction of life, and never ought to be resorted to, except the patients had been in robust health, were young, and where the blood had not been deprived of a very large quantity of its albuminous, serous, and saline constituents.

Mr. Hird objected to the use of large doses of opium in every stage of the disease. He believed that it interfered with the restoration of the renal, biliary, and other secretions, and that it invariably increased the tendency to coma consequent on the non-action of the depurating organs.

Dr. Peregrine had seen three cases of the disease in the present invasion: two of these occurred at the Lock Hospital. He regarded all the symptoms of the disease as the result of the draining of the serum from the system. He believed the more simple our treatment the more effective it would be. He spoke of the importance of arresting diarrhœa in its early stages, and believed that the compound chalk powder, with opium, was one of the best remedies to effect this. In the advanced stages of the disease it was important to keep up the warmth of the surface of the body by the application of heat.

Dr. Snow objected to the application of warmth in cases of cholera, and founded his objection to its employment on the fact that in cases of asphyxia such application was injurious. Cholera was not asphyxia, but in some points resembling it, so far as the internal congestion was concerned.

Dr. Carr referred to two cases of cholera recorded by himself in *The Lancet* of that day, and recommended the treatment therein employed to be followed by other practitioners.

Dr. Murphy inquired if cholera had been found to be prevalent in any district; but no one present had seen it.

Dr. Skiers entered at much length into the pathology of the disease, and of the mode of its treatment in Paris. He regarded the fatal symytom to be suppression of urine. It was essential to arrest the first symptom of diarrhœa. In the advanced stages, the administration of cold water, *ad libitum*, and the application of warmth to the surface, was the most effectual plan of treatment.

The debate was adjourned.

Correspondence.

ON THE TREATMENT OF HYPOPION.

Sir,—I beg to forward for publication in your journal, some remarks upon the treatment of hypopion; the plan which I have recommended in the notes attached to the second edition of Morgan's Lectures on Diseases of the Eye having been objected to by a writer in the last number of the British and Foreign Medical Review. The object of my addressing you is, 1st, to defend the practice of puncturing the cornea in cases of hypopion, under certain given circumstances, in the mode directed in my note; and, 2d, to record my earnest protest against the mode of operating which the reviewer would substitute in its place.

When medicinal treatment, properly managed, fails to check the progress of a hypopion, which, on the contrary, progressively increases, so as to mount above the level of the axis of vision; and in combination with this, severe inflammation, severe hemicranial and ocular pain, and tenderness, persist unrelieved, I do not hesitate to repeat, that the matter should be evacuated artificially. If this measure be not taken, and some sudden unaccountable amelioration do not occur, disorganization of the globe must ensue. If it be taken, putting out of view the immediate relief of suffering, the patient is afforded the only probable chance of saving his eye.

Cases so intractable as to fulfil the conditions just specified, are, as I have said, rare: they are always severe cases; and, upon this ground,—not that the mere puncture of the cornea exerts any peculiarly pernicious influence—the prognosis after this operation should, of course, be very guarded. Some of these cases undoubtedly will continue to pursue that onward course to destruction of the globe, after evacuation of the anterior chamber, which had been pursued before. Others, however, as I can testify from personal observation, will, from the moment of operation, advance steadily to entire convalescence. To puncture the cornea, then, in ordinary cases of hypopion, is utterly unjustifiable, because they may be otherwise cured; and, on the other hand, not to puncture under the circumstances just supposed is also wrong, because such inaction virtually abandons the organ to almost inevitable destruction. I am fully aware of Scarpa's opinion upon this subject, and believe he has done good service by bringing operative interference with hypopion, as a rule, into disrepute; at the same time, experience compels me to vindicate the utility of the practice, when the conditions specified exist.

The reviewer recommends as follows—"If the surgeon is bent on evacuating the pus of an hypopion, let him puncture the opposite edge of the cornea to the extent of two lines in length, and draw out the tenacious matter with a hook; in any other way he will be foiled." Against this recommendation I must strenuously protest. If the cornea be pierced beneath a hypopion, as I have advised; and the cataract-knife, when sufficiently advanced into the anterior chamber, be slightly turned on its axis;—the gush of superincumbent aqueous fluid forces out a far larger proportion of the effusion than would otherwise escape; while gravitation favours the slow washing away of the remainder as long as the aqueous secretion continues to exude. The effect, however, of the proceeding advocated by the reviewer must necessarily be—first, to give vent to the aqueous humour; next, if the matter prove of tenacious quality, to cause its diffusion between the surfaces of the iris and capsule of the lens, and that of the cornea (for these parts fall into contiguity immediately the aqueous humour is discharged); and, lastly, if the operator, agreeably to instructions, fish for the effusion with a hook, to subject the inflamed organ to an indefinite amount of irritation and injury. To remove the tension of an inflamed organ is undoubtedly an object of high importance in its treatment; and hence mere evacuation of the aqueous humour might in these cases prove of service; but when the method suggested involves the certainty of spreading across the pupil a layer of puro-lymph, of which it is impossible to predict that all shall subsequently escape through the external aperture, or be absorbed, and that none shall become organized into a permanent false membrane, what duly cautious practitioner would choose to incur the responsibility of such a serious contingency? When further forewarned that the use of a hook may be required to effect the removal from the temporarily (almost) obliterated anterior chamber of a substance too viscid indeed to flow spontaneously through the distant opening, but neither cohesive enough to hold upon the hook when caught, nor firm enough to sheath the point of that instrument, and prevent its entanglement in the capsule iris or cornea, what prudent surgeon would commit himself to such an undertaking? Few who have ever experienced the nicety of manipulation requisite in the management of the curette when extracting a cataract from an uninflamed eye, would think of thus hazarding the introduction of a hook within an inflamed and consequently irritable one. I feel convinced, that, upon reconsideration, the reviewer himself would not urge such a proceeding as this.

I must also dissent from the writer as to the use of belladonna in ordinary cases of hypopion, unconnected with inflammation of the iris. If the iris be healthy, and the effusion into the anterior chamber, as is most common, be limited in amount, I deem it inexpedient, by the application of belladonna, to withdraw the septum interposed between the inflammatory product of which some portion may be of plastic nature, and the crystalline capsule upon which the deposit of any plastic effusion is calculated to be highly detrimental. In cases, however, where hypopion has overpassed the lower margin of the pupil, and in every case, without exception, where iritis is either recognised or suspected, belladonna should be sedulously employed.—I am, sir,

Your obedient servant,

JOHN F. FRANCE.

41, Finsbury Square, Oct. 1848.

POOR LAW MEDICAL RELIEF.—THE INJUSTICE OF THE POOR LAW IN RESPECT TO MEDICAL OFFICERS AND THE POOR.

SIR,—I know not whether, after your strenuous and persistent advocacy of our cause, your columns are still open to our numerous complaints, or rather to the exposure of that which forms a heavy item of sin committed against the poor; however, if space be allowed me, I wish to detail a case, which, as the Poor-law stands at present, is strictly legal, but which has been made the instrument of gross oppression to an industrious man, and is calculated to drive all poor women labouring with child to seek any aid rather than that of the parochial surgeon.

A. T. is removed some time back to his own parish, but returns again to the one from which he is removed, finding no employment elsewhere; he works on industriously till his wife is taken in labour, and help has to be procured from the parochial surgeon; he becomes, in consequence, chargeable and amenable to the law, which is executed against him with all rigour; he is summoned before a magistrate, convicted, and sentenced to a month's imprisonment, and hard labour; the home of the man is broken up; the wife and five children become inmates of the union workhouse; the treadwheel supplies the place of the loom; industrious habits are tainted with the depravity of the prison; he becomes henceforth an outcast of society, and the children become paupers from the moment of their birth: and for what is all this misery brought upon him? Simply that those heavy items in the parish accounts, the "extras," may be curtailed,—simply that puerperal women may learn that they have no sympathy in their distress,—can expect no aid in their hour of trouble, except by their husbands facing the law and its revolting punishment. Whilst the wheel revolves under the devoted feet of the above pauper, my eye glances over my list of orders, and I find A. B., previously removed from this parish, ordered to be attended by me for sickness; nothing more has to be paid to the surgeon, the case is lumped into the contract, and consequently the patient is not imprisoned. M. H., also removed, has my attendance freely given, as also G. S. and E. L., without the prison, not being extras.

Is this glaring inconsistency to be carried on longer? Will the Poor-law Board suffer the medical men to be imposed upon in their contracts, and that every art, every stratagem, should be used to lessen the only emolument they can possibly derive from holding their present offices? Is it right—is it just or equitable—to cast the husband of a puerperal woman into prison because her confinement entails expense, and leave other persons unpunished who are equally guilty in returning to the parish, but have not a payable disease? Is it right, in fact, to throw a man into the company of felons for any sickness at all with which the Almighty may be pleased to afflict either himself or wife?

There should be a distinction made between real and fictitious poverty, between the deserving and designing beggar. That limited parochial rating, which makes men look to their purses rather than to the side of right and just dealing, should be done away with; and poverty, the result of sickness, should be made a state-burden, not a local one. So long as the Poor-law Board delay a strict inquiry into the treatment of the sick poor throughout England; so long as they support the parsimonious policy of local Boards, or sanction oppression, exercised by officious parochial officers,—so long will a great and heavy sin be at their door.

Public sympathy has been excited; the cholera is amongst us; the public voice demands some extensive remedial measure; and, until our position is altered, we shall never cease to have cause to publish cases of injustice towards ourselves, and particularly against the poor committed to our charge.

I remain, Sir,
Yours respectfully,
C. E. F.

Oct. 1848.

THE UPTON-ON-SEVERN UNION.—ELECTION OF NEW MEDICAL OFFICERS.

SIR,—Since our last communication to you of August 15, events have occurred in this Union, which it is now our duty to report. On the 17th of August, Mr. Greaves, the Assistant Commissioner, was here for the purpose of investigating the recent appointments made by the Board of Guardians: the result of this investigation was not fully known until the 28th September, when a communication was received by the Upton Board of Guardians from the Poor-Law Board in London, and Mr. Greaves was again present. The Poor-Law Board cashiered the appointment of Mr. Marsh, for the Kempsey District; of Mr. Nelson Thomas, for the Eldersfield District; of Mr. West, for the Powick District; and ordered the Board of Guardians to re-advertise these Districts—the salaries to be increased 20 per cent., unless a satisfactory reason could be given for not doing so!! A loop-hole was thus left with an obvious intention. The Guardians rejected this order by a majority of 9 to 7, and determined on re-advertising the Districts at the late salaries. Mr. Mears tendered for the Powick District, and Mr. White did the same for the Kempsey District, at the 20 per cent. increase, to meet this concession of the Poor-Law Board; and on Thursday, October 12, the appointments were filled up. Mr. Wadham, of Malvern, was appointed to the Powick District; Mr. Crosse applied for and secured the Kempsey District. Mr. Crosse has been brought forward as a new importation, under the auspices of Mr. H. B. Marsh, the "sympathizer with the too numerous victims to medical relief injustice,"[*] and is now placed at Kempsey, with the express and only object of opposing Mr. White, in the centre of his neighbourhood, where there has been only one resident medical man for many years past. A threat of this kind was long held out as the inevitable punishment of Mr. White's obstinacy in rejecting the District at the advertised salary: thus the crime of upholding the dignity and honour of the profession has been avenged, and official favour secured.

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[*] See Mr. Marsh's letter in Lancet, 2d [illegible] 1848.

On Monday evening, October 16th, we called on Mr. Crosse, for the purpose of ascertaining if he were fully cognizant of the peculiar circumstances which had induced the resignation of the late medical officers of this Union. We saw Mr. Crosse, and with him Mr. Marsh. In reply to our question to Mr. Crosse, whether he had accepted his appointment with a full knowledge of *all* the circumstances connected with the recent movement of the medical officers, Mr. Crosse replied, that he felt himself quite taken aback, that he was much fatigued, and would rather wave any discussion then, but would be happy to afford us an interview on the following day. We said that there really appeared to us no necessity for delay, as we only desired a plain answer to a very simple question. After much hesitation (and the introduction of much extraneous and irrelevant matter, most intemperately intruded by Mr. Marsh), Mr. Crosse stated that he *was* aware of all the circumstances of the case. We asked him if he had read our published statements in the medical journals. He replied he had not, and professed himself too much of a sceptic to place much reliance on the statements of the press; he preferred the public rumour of the neighbourhood; and had heard all particulars from Mr. Marsh, whose word he could not doubt. We deemed it our duty to have an interview with Mr. Crosse, from the circumstance of his being a stranger to the neighbourhood, and possibly unacquainted with the peculiar nature of the case. Mr. Charles Sheward, notwithstanding his public repudiation of a previous nomination, has now thought proper to accept the Eldersfield District; and thus the Upton Board of Guardians has been successful in obtaining, upon their own terms, from some quarter or another, a sufficient number of officers to *undertake* the different medical Districts. Truly was it said of old, "a man's enemies are chiefly they of his own household." A "heavy blow, and a sore discouragement" have been inflicted on the prospects of Union surgeons throughout this kingdom, by the disgraceful conduct of the profession. We say, profession, for until the *whole* body adopts a summary mode of ridding itself of such members as have here sold themselves individually to do the work and obey the behests of those who oppress them generally, the crime and its consequences must be charged on the whole profession. Four gentlemen have been found capable of betraying their brethren, and of sacrificing a great cause for the sake of a few paltry pounds. As long as the profession includes such individuals, of what possible use are representations to Government, expostulations with Poor-Law Boards, or memorials to Boards of Guardians? The more the question is agitated, the more notorious does the degraded state of the profession become. We invoke on our own heads the contumely of the many, and win by our own exertions and personal sacrifices the disrespect and reproaches of the public. The utter hopelessness of any appeal to the Poor-Law Board for the redress of our grievances, has been rendered apparent by the Upton case. We *have* appealed to that Board. It has admitted the *justice* of our claims, and yet allows the Guardians to continue to perpetuate their injustice; the Poor-Law Board recommends, without the power, or at any rate the courage, to enforce its recommendation. It orders, and yet lacks the spirit to compel obedience to its mandates. Where, then, is the remedy? It lies in the hands of the profession, and there only. We were aware of this at the onset, and we tried the experiment of appealing to our own body, and truly it has been an experiment, and one which has signally failed. The partial countenance and support which were at first afforded us have been withdrawn; the medical officers of the Upton Union have been defeated, and by their defeat the deepest possible injury has been inflicted on the cause of Poor-Law Medical Reform. A more insane act of suicide (to the destruction of the best interests of the profession) was never in our judgment perpetrated, than that which has just been committed by Messrs. Marsh, Sheward, Waddam, and Crosse. To the medical profession we say, and we say it emphatically, "awake, arise, or be for ever fallen"!!

We remain, sir,
Your obedient servants,
CHAS. BRADDON,
WM. TODD WHITE.
The Deputation of the late Medical Officers of the Upton-on-Severn Union.

Oct. 17th, 1848.

GERANIUM MACULATUM A CURE FOR MERCURIAL SALIVATION.

DR. GEO. M. MACLEAN has used in one case of mercurial salivation, he says (*New York Journ. Med.*, May 1848), an infusion of the Geranium Maculatum as a lotion with speedy and entire relief.—*American Journal of Med. Sciences*, July 1848.

Medical Intelligence.

MEMORIAL OF THE POOR-LAW MEDICAL OFFICERS TO THE RIGHT HON. CHARLES BULLER. (COPY.)

To the Right Honourable Charles Buller, M.P., President of the Poor-Law Board.

THE Memorial of the Committee of the Convention of Medical Officers of Poor-Law Unions in England and Wales—

Sheweth—

That your Memorialists, being deputed and authorised at a Convention of Delegates representing nearly three thousand medical officers of Unions, assembled at the Hanover Square Rooms, on the 27th October, 1847, to act in their behalf, with a view to obtain an amelioration of the present system of Poor-Law Medical Relief, feel it their duty respectfully to draw the attention of the Poor-Law Board to the following statement:—

Your Memorialists have watched with deep interest the circumstances connected with the recent resignation of the medical officers of the Upton-on-Severn Union, and the subsequent appointment of others by the Guardians of that Union to fill the vacancies thus created; and the feelings entertained by your Memorialists on this subject are so strong that they do not hesitate to address your honourable Board, to the effect that the case may be thoroughly investigated prior to those appointments receiving its sanction and confirmation.

Your Memorialists, in thus calling attention to the subject, desire in the first instance particularly to state that they have taken no part whatever with the medical officers of the Upton Union, as respects any special grievance which they may have laboured under, and that their resignation has emanated from themselves, without any bias or influence being used by your Memorialists, who make this appeal upon public grounds, considering the following reasons amply sufficient to justify their doing so:—

1st. That although the total amount of the salaries paid to the medical officers of the Upton Union, may not be below the average paid to medical officers of agricultural districts, the scale of remuneration which is made the standard is so miserably degrading and inadequate, as to give general offence to the medical profession, and both jeopardise the interests of the sick poor and prove a short-sighted economy to the ratepayers.

2d. That the order limiting the extent of the districts of medical officers, as ordered by your Board, has been violated by the Guardians of the Upton Union, in assigning to their officers two districts exceeding the prescribed acreage.

3d. That, as your Memorialists are credibly informed, one at least of the medical officers appointed by the said Union is not qualified, in accordance with the judicious order of your honourable Board, for securing efficient medical aid for the sick poor, and that another of the medical men submitted for your approval was once suspended when holding office on a former occasion, and was even set aside by the very Board of Guardians who now consider him eligible to fulfil the onerous duties which his appointment necessarily imposes upon him.

4th. That the circumstances of the whole case are such as to foster dissensions amongst the members of the medical profession, and seriously to obstruct their cordial co-operation for the benefit of the sick poor.

For these reasons your Memorialists pray that you will be pleased to withhold your confirmation of the said appointments.

(Signed) THOS. HODGKIN, M.D.
Chairman of the Committee.
CHARLES F. J. LORD,
Hon. Secretary.

Sept. 1848.

SOCIETY FOR RELIEF OF WIDOWS AND ORPHANS OF MEDICAL MEN IN LONDON AND ITS VICINITY.

A HALF-YEARLY General Court of this Society was held at the Gray's Inn Coffee House on Wednesday evening, the 18th ultimo; Martin Ware, Esq., V. P., in the chair. It appeared from the minutes which were read, that since the last half-yearly meeting, twenty-one members had joined the society, one widow had died, another, with four children, had applied for and received relief. Thirty-three widows and sixteen children of deceased members, were receiving half-yearly relief, for which purpose £629 had been distributed. Benefactions to the amount of £325 had been received, principally at the annual dinner; besides the subscriptions of members, leaving a balance at the Banker's of £753, in addition to the capital stock invested in government securities. This account shews that the income of the society keeps pace with the increased and increasing claims upon its funds.

It was announced that John Hunter, Esq., of Mincing Lane, had resigned the office of acting treasurer, and that the six senior directors on the list had retired in rotation.

A very cordial vote of thanks to Mr. Hunter was resolved upon unanimously, and the ballot for officers for the ensuing year took place.

Dr. S. W. Merriman was elected Acting Treasurer, and Sir James Eyre, Dr. Seth

Thompson, Wm. Pennington, Esq., James York, Esq., John Hunter, Esq. (late Acting Treasurer), and A. M. Randall, Esq., were elected Directors.

After the meeting was dissolved, a letter, stating that the wife and four children of a medical man, just arrested for debt, were in most urgent distress: the case, which does not come at all within the scope of this Society's operations, was referred to the kind consideration of Mr. Newnham, of Farnham, the Hon. Secretary of the Medical Benevolent Fund. A small subscription was raised amongst the persons present.

MANCHESTER MEDICAL SOCIETY.

The following gentlemen were elected office-bearers for the ensuing session:—*President*—Dr. Radford. *Vice-Presidents*—Mr. R. T. Hunt, Mr. Noble, Dr. C. W. Bell, Mr. Wilson. *Treasurer*—Dr. Ashton. *Hon. Secretaries*—Dr. Renaud, Dr. H. Reid. *Hon. Librarian*—Mr. Stone. *Councillors*—Messrs. Brownbill, J. B. Harrison, Dumville, Lomas, Southam, Catlow, Spence, Allen, Bowman, Golland, Dr. M. A. E. Wilkinson, Mr. Franklin.

APPLICATION OF THE PROVISIONS OF THE DISEASES-PREVENTION ACT TO EDINBURGH.

The General Board of Health have agreed to the following regulations, under the "Nuisances Removal and Diseases Prevention Act, 1848," 11th and 12th Victoria, chap. 123, applicable to the parochial boards for the management of the poor in the following parishes in and near Edinburgh—viz. the city of Edinburgh, St. Cuthbert's, Canongate, North Leith, and South Leith.

Whereas by the act of the 11th and 12th Victoria, chap. 123, intituled "An Act to improve and amend an Act of the 10th year of her present Majesty, for the more speedy removal of certain nuisances, and the prevention of epidemic and contagious diseases," the General Board of Health is empowered to issue such directions and regulations for carrying into effect the provisions of the said act as to them may seem fit; now we, the said General Board of Health, do hereby authorize and direct the parochial boards for the management of the poor in the following parishes in and near Edinburgh—namely, the city of Edinburgh, St. Cuthbert's, Canongate, North Leith, and South Leith, to execute, or see to the execution of, the directions and regulations following, viz.:—

1. We hereby authorize and require the said parochial boards to provide dispensaries in suitable stations with sufficient medical aid, such dispensaries to be accessible at all times, by night and by day, to persons requiring medical aid for themselves or others attacked by cholera, or by any of its premonitory symptoms; and to provide the medicines to be distributed to such applicants at such dispensaries, and such medicines and cordials as may be required elsewhere in their respective parishes, for necessitous persons attacked as aforesaid who may be under medical treatment.

2. And we do further authorize and require the parochial boards of the said parishes and places to make arrangements for the distribution of notices, stating the places where the dispensaries shall have been provided.

3. Whereas it has heretofore been found to be impracticable to ensure proper treatment in their own houses to many of the poorer classes, we authorize and require the said parochial boards respectively to provide houses or suitable rooms, capable of accommodating necessitous cases, to which persons attacked by cholera, who cannot be properly treated in their own houses, may be conveyed.

4. We authorize and require the said parochial boards to provide houses of refuge, to which may be removed the families of such necessitous persons as have been attacked with cholera, and also such necessitous persons living under the same roof or in the vicinity of persons so attacked, as the medical officers acting under the authority of the said parochial boards may deem it necessary to remove; the houses, rooms, or dwellings from which persons may have been so removed to the houses of refuge, to be cleansed and purified by the owners or persons having the care or ordering thereof, or in their default, by the said parochial boards respectively.

5. And we hereby authorize and require the said parochial board to provide for the frequent visitation by themselves or their officers, or such person as they may appoint in this behalf, of the several houses and dwellings throughout the bounds of their several parishes, and to inquire into the condition and matters affecting the health of the inmates of such houses and dwellings respectively, and their liability to contagious, epidemic, or endemic diseases, and especially as to the existence among them of bowel complaints.

6. And we authorize and require the said parochial board, on their own inspection, or the report of the officers or persons by whom such visitations may be made, or other information which they may acquire from their own committees, or from visitors or others, as to the condition of the poor who may be affected with, or threatened by, the cholera or other epidemic disease, to supply such medical aid as may appear requisite.

7. And we hereby authorize and require the parochial board, or the officer or person visiting as aforesaid, subject to the special

instructions of the parochial board, in each case where symptoms are found of a premonitory attack of bowel complaint, to send the person so affected to the nearest dispensary within the bounds of the parish, or, where this may be inexpedient, to despatch some member of the family, or other person, for advice and medical aid, and immediately report to the medical officer the case of every such person found so affected who shall not have proceeded to the dispensary.

8. And we do authorize and direct the several parochial boards to make arrangements for obtaining daily lists of persons attacked by cholera within their respective parishes, with the particulars of their case and treatment, and for communicating the same daily to the other boards respectively, and to the President of the Royal College of Physicians of Edinburgh.

9. And we do hereby authorize and direct the said parochial boards to appoint such additional medical officers, and also to appoint such other officers as may be necessary to carry out, execute, and superintend the execution of these regulations.

Given under our hands, and under the seal of the General Board of Health, this 20th day of October, 1848.

EDWIN CHADWICK,
T. SOUTHWOOD SMITH.

THE THAMES AND THE SERPENTINE AS FOCI OF PESTILENCE.

UNTIL it had been satisfactorily demonstrated by a staunch sanitarian in the *Times*, we had not the least idea that there were in the very heart of this metropolis two rivers as foul and pestilential as the Niger and the Gambia! The Thames is unquestionably responsible for the cholera. Hear the gentleman of the press on a subject which is now exciting alarm from Hampstead to Peckham, and from Kensington to Stratford:—

"Nobody can possibly have overlooked that there is *one* constant element in the circumstances of all these several attacks—the river Thames. We are not going to insist further upon this point at present, but the fact cannot be blinked, that, whether the patients are marines, convicts, prisoners, or sailors, there is always one condition found fulfilled—that they have been breathing the atmosphere of the river."

Who can doubt, after this, that Father Thames is responsible for the whole of the mischief? We would only suggest, by way of palliative, that the sanitary condition of those thin and spare-looking beings, the Thames watermen, should be immediately examined by the Statistical Society. As they work within a few feet of the surface of the water, the figure of mortality among them will serve as a good criterion of the fatal effects produced by the stagnant waters of this pestilential river. It is strange, too, that the Faculty has been under such a delusion as to suppose that the cholera was *progressing* towards us from the east, when the poison was all the time locked up in the mud on the banks of the Thames. The sanitarian writer who has raked up this muddy theory tells us that—

"There is little more reason for believing the cholera to be an Asiatic production than a Baltic importation. It is but a modification of the ordinary results of impurity and want, and should be met by the ordinary appliances of cleanliness and care."

As to the Serpentine, the lake Avernus and the river Styx, both of which we have had an opportunity of personally inspecting, must be the types of purity compared with its waters. We cannot, however, join in running down our rivers just because the cholera happens to have made its appearance among us; and we therefore reprint a letter addressed to the *Times* by a professional man in defence of the calumniated Serpentine:—

"I hope, in justice to this neighbourhood, that you will allow me a few lines on the Serpentine. If all that is said about this pond be true, a man might as well settle at once on the banks of the Gambia. To breathe its vapours, and escape pestilence, must be miraculous. You lately copied from a medical journal an emanation from some author's brain, and dignified it by a notice in your leader. What a fearful *compôt* of putrefying matters! What a focus of corruption! What a Pandora's box! But, really, this is all romance. I live hard by these waters, walk about them daily, and, being a doctor, have an eye to the sources of disease, animal and vegetable effluvia! dead fish and rotten confervæ! Why there is not as much fish in the whole pond (many a patient piscatory soul can testify it) as would fill a costermonger's donkey-cart; and as for dead fish, there was only one to be seen on its surface all this summer. Now, really, a man might as well pretend that a dead rat stretched in Piccadilly would infect the parish of St. James, or that we should suffer from the sudden decay of the two innocent-looking *pisces* in the zodiac. As for the vegetables, if we object to their decay, we had better at once make a clean thing of the gardens, for more decaying leaves are shed in them every fall than there are drops of water in the Serpentine. Sulphuretted hydrogen, too! You create more every time you eat an egg for breakfast, as your blackened spoon can testify, than any chymist could find in a day's search about the Serpentine. Be assured, that whatever disease is to be got out of this water is to be found beneath its surface, and not above it: its banks are hard and dry, and its bed covered; that *nescio quid*, which laughs at doctors and withers generations, does not emanate from the flowing waters, but from the rich swamps and the teeming morasses of the Orinoco and the Niger; ay, and from the muddy banks of the Thames, when the receding tide has left them bared to the sun. It is from such moist, heated masses of corruption that pestilential fever springs. Far be it from me to defend mud and duck ponds; I would rejoice if your efforts could make the waters under us and the air above us clear as a Parisian sky. My only wish is here to allay the misgivings which your paper has created in the anxious mother's breast when she despatches her little brood of a morning to feed the ducks in the Serpentine.

"Your obedient servant,

"EUEXIA."

Paddington, Oct. 27.

CHLOROFORM IN CHOLERA.

DR. HILL, of Peckham House Asylum, has addressed a letter to the *Times*, setting forth the benefits derivable from the use of chloroform vapour in cholera. We make the following extract from his letter:—

"The following is our usual mode of treatment:—Place the patient in bed in warm blankets; give a glass of brandy in hot water, with sugar and spice; apply friction to the body by means of warm flannels; and an embrocation composed of Liniment. Saponis Comp., Liniment. Camphoræ Comp., Tinct. Opii and Extract. Belladonnæ; apply to the whole surface of the body bags filled with heated bran; place the patient under the influence of chloroform by inhalation, and keep him gently under its effect as long as the bad symptoms recur (which they frequently do on its effect ceasing and his regaining consciousness). Give in the intervals small quantities of brandy-and-water, and thin arrow-root or milk for nourishment, along with milk and water, or soda-water with a little brandy for drink. Avoid everything else in the shape of medicine, and trust to the efforts of nature in rallying from the poison of the disease.

"Of course great caution is necessary in administering the chloroform, and in not pushing it too far. In some instances the patient will sleep for twenty minutes or half an hour; in others for several hours, and, on awaking, will again be seized with a return of the vomiting and cramps, when the chloroform must again be resorted to, and the patient kept in a great measure under its influence till these symptoms abate. One of our cases required its use at intervals for 24 hours. Again, the reaction after its use may be so great as to require general blood-letting, which occurred in two of our cases, both being persons of full habit of body and sanguine temperament—the one a nurse, and the other a male farm servant."

The Doctor states that chloroform vapour has been employed by him in ten cases of cholera with complete success, six having perfectly recovered, and four being convalescent. In the asylum there have been in all seventeen cases of malignant cholera; of whom five have died, eight have recovered, and four remain under treatment, but are now convalescent. The only explanation which can be suggested of the therapeutical action of this universal agent is, that it suspends the effect of the choleraic poison on the nervous ystem, and gives time for vital reaction. Chloroform has been already employed internally, and it is said with good effect, in some severe cases of English cholera.

THE CHOLERA IN THE HULKS.

Woolwich, Oct. 29.—The medical report up to 12 o'clock to-day, gives one new case since yesterday's report, being the only one since Monday last. The total number of cases is, 44 attacked, 14 deaths, 14 recoveries, and 19 convalescent, all convicts.

Oct. 30.—Three new cases have been reported as having taken place on board the Unité hospital-ship, from 12 o'clock yesterday to 12 o'clock to-day, and two have been reported as discharged. There have been no deaths, and the new cases are now stated to have assumed a milder form that hitherto prevailed. Almost all the cases of deaths, and even attacks, amongst the convicts have occurred amongst those who have been subjected to punishments or confinements in the black hole, or whose constitutions have been greatly injured by their previous course of life.

Nov. 1.—There was one new case reported up to 12 o'clock yesterday, and one death up to 12 o'clock to day, making a total of 48 admitted, 15 deaths, 16 discharged as recovered, and 10 convalescent. The death which occurred to-day was of an infirm patient, paralytic in one leg, and was owing to a relapse. The fatal illness lasted 118⅓ hours. The deceased was about 60 years of age, if not more, as most of the prisoners at that time of life appear ignorant of their precise ages. There are still two severe cases under treatment, one of the sufferers' is aged and infirm, and the other young, but feeble and sickly. Dr. Dabbs, surgeon of the Unité convict hospital ship, reports that the disease is certainly on the decline.

APOTHECARIES' HALL.

NAMES of Gentlemen who passed their examination in the science and practice of medicine, and received certificates to practise, on Thursday, 26th October, 1848:—James Henry Lakin, Hattlerd, Atherstone, Warwickshire—Edward Gylles Crooke, Edinburgh—William James Williams, India—Henry Potter.

BIRTHS & DEATHS IN THE METROPOLIS

During the week ending Saturday, Oct. 28.

BIRTHS.		DEATHS.		*Av. of 5 Aut.*	
Males....	718	Males....	568	Males....	581
Females..	693	Females..	539	Females..	573
	1411		1107		1154

CAUSES OF DEATH.		Av. of 5 Aut.
ALL CAUSES	1107	1154
SPECIFIED CAUSES	1106	1149
1. *Zymotic* (or Epidemic, Endemic, Contagious) *Diseases*	455	270
Sporadic Diseases, viz.—		
2. Dropsy, Cancer, &c. of uncertain seat	36	52
3. Brain, Spinal Marrow, Nerves, and Senses	114	127
4. Lungs and other Organs of Respiration	120	222
5. Heart and Bloodvessels	26	38
6. Stomach, Liver, and other Organs of Digestion	61	67
7. Diseases of the Kidneys, &c.	12	12
8. Childbirth, Diseases of the Uterus, &c.	7	14
9. Rhematism, Diseases of the Bones, Joints, &c.	12	8
10. Skin, Cellular Tissue, &c.	1	2
11. Old Age	34	64
12. Violence, Privation, Cold, and Intemperance	19	32

The following is a selection of the numbers of Deaths from the most important special causes:

Small-pox	47	Paralysis	20
Measles	16	Convulsions	25
Scarlatina	182	Bronchitis	48
Hooping-cough	33	Pneumonia	51
Diarrhœa	38	Phthisis	124
Cholera	34	Dis. of Lungs, &c.	5
Typhus	74	Teething	5
Dropsy	19	Dis. Stomach, &c.	8
Sudden deaths	3	Dis. of Liver, &c.	10
Hydrocephalus	18	Childbirth	3
Apoplexy	34	Dis. of Uterus, &c.	8

REMARKS.—The total number of deaths was 47 *below* the weekly autumnal average. See page 757.

METEOROLOGICAL SUMMARY.

Mean Height of Barometer				29·45
" " Thermometer[a]				51·5
Self-registering do.[b]	max.	75·1	min.	30·
" in the Thames water	—	51·	—	45·8

[a] From 12 observations daily. [b] Sun.

RAIN, in inches, 1·35: sum of the daily observations taken at 9 o'clock.

Meteorological.—The mean temperature of the week was about 2·6 above the mean of the month.

BOOKS & PERIODICALS RECEIVED
DURING THE WEEK.

An Introduction to Botany. By John Lindley, Ph.D. F.R.S. 4th edition, 2 vols.

A Short Account of a Case of Disease of the Appendix Cæci. By Henry Hancock, F.R.C.S.E.

Wonders displayed by the Human Body, in its Endurance of Injury. From the Portfolio of Delta.

Casper's Wochenschrift. No. 41, 7th Oct. 1848.

Tracts for the Improvement of Popular Literature. No. 3—Physiology.

British Record of Obstetric Medicine. No. 21, Nov. 1848.

Remarks on Chloroform in alleviating Human Suffering. By W. H. Bambrigge, Esq.

(The remainder will be given in our next No.)

NOTICES TO CORRESPONDENTS.

The letter of Mr. J. Mackenzie, Archangel (Oct. 2, O.S.), has come to hand. We shall be glad to receive the report.

The subject referred to by M. M. Minter, of Folkstone, shall receive our attention.

Dr. G. Robinson, Newcastle. It will give us great pleasure to publish the reports of the new Society.

The circular from the Central Board of Health, Dublin, has reached us.

We have to apologise to several correspondents—among others, to Drs. Parkes, Dick, C. H. Jones, and Snow, for the delay in the insertion of their papers, rendered unavoidable by the lengthy documents on cholera, for which we have been compelled to find space. They are in type, and will be inserted in the following number.

The second communication of Dr. Milroy has been received, and will be inserted at the earliest opportunity.

Mr. Atkinson's letter on Electrical Phenomena in Cholera next week.

The Report of the Parisian Academy of Sciences was too late for this number. Will our correspondent be so good as to put the *date* to each report?

Mr. N. Davey's letter, and the Suggestions on Cholera from Edinburgh, next week.

J.—The paper on the Contagion of Cholera shall receive our attention; and a letter will be sent, or notice of insertion given in the usual way.

RECEIVED.—Dr. Seaton, Dr. Dick, Sir C. Scudamore, Mr. Hicks, Mr. P. Richardson, Mr. W. Bailey.

THE GENERAL INDEX.

We have to announce to our Subscribers that a GENERAL INDEX to the *first* 40 *Volumes* of the LONDON MEDICAL GAZETTE will, it is calculated, form a large Volume of about 700 pages. The cost of the INDEX VOLUME, respecting which many inquiries have been made, will be Twenty-four Shillings; and it is proposed to commence it so soon as the Names of *Five Hundred Subscribers* have been obtained.—The printers, Messrs. WILSON AND OGILVY, 57, Skinner Street, will receive the Names of Subscribers.

Lectures.

COURSE OF SURGERY,

Delivered in the years 1846 *and* 1847,

BY BRANSBY B. COOPER, F.R.S.

Surgeon, and Lecturer on Surgery at Guy's Hospital.

LECTURE XLII.

CONTINUATION OF DISEASES OF THE RECTUM.—GENITO-URINARY ORGANS.

RECTUM—*Fistula in ano—premonitory symptoms—preparation of the patient before operation—case. Mode of operating—modification of the operation by ligature—constitutional means to prevent the return of the disease – Recto-vaginal fistula—cases. Recto-vesical fistula—lacerations of the rectum—mode of promoting the cure—stricture of the rectum—liability to stricture in all excretory outlets—spasmodic stricture—permanent stricture—symptoms—treatment.* GENITO-URINARY ORGANS—*anatomical relations—urethra—its conformation—natural dilatations and contractions—their situation—lacuna.*

Fistula in ano.—This disease is usually first manifested externally by the presence of an abscess, or perhaps only slight swelling or hardness at the side of the anus. This is not, however, the true commencement of the complaint, which I believe begins invariably in the bowel itself, immediately above the sphincter muscle. The individuals most liable to this disease are those who lead sedentary lives, and are also irregular in their diet: such persons easily acquire a congested state of the liver, the rectum very soon becoming affected in consequence.

The first symptom of fistula is a deep-seated pain and sensation of uneasiness about the anus; this continues for an hour or two after evacuation of the bowels, and is sometimes attended by a slight discharge of blood. I have also known slight rigor to be a precursor of fistula. When a patient to whom you are called describes the symptoms just detailed, you should at once proceed to examine the region of the anus, and although there may be nothing appreciable by the eye, if the finger be forcibly pressed between the tuberosity of the ischium and the verge of the anus an unnatural hardness will frequently be felt, and considerable pain produced by the pressure. If these symptoms present themselves, a lancet should be plunged into the swelling, upon which a small quantity of matter generally escapes, or perhaps the lancet will be merely stained by it: this would, however, be sufficient to prove satisfactorily that suppuration has been the cause of the symptoms.

These indications are supposed to mark the commencement of fistula in ano; but the disease itself no doubt commences in the rectum as an ulcer, immediately above the sphincter ani, the original cause probably arising from the retention of the fæces, which excites ulceration through all the tissues of the parietes of the rectum, extending into the cellular tissue, where it produces those external signs which are generally regarded as the commencement, instead of the consequence, of the disease. If at this stage the fistula be neglected, it extends upwards by the side of the rectum, isolating a large portion of the bowel from its cellular connection, and ultimately bursting through the skin by the side of the anus, converts that which was at first termed a blind, into an open fistula: sometimes the ulcerated opening is formed at a considerable distance from the anus, or three or four fistulous openings may be established by the burrowing of the matter. It does not invariably follow, gentlemen, however evident it may be that nothing but an operation can cure a fistula, that that operation is to be at once performed, although it is advisable to ascertain immediately the extent of the fistula: if irregularity of the bowels, enlarged liver, and a jaundiced complexion, indicate a cachectic habit, medicinal means must be employed to restore the health before it would be safe to venture upon the operation; the remedies which I have generally found most effective for this purpose are small repeated doses of mercury and sarsaparilla, quinine, or other tonic medicines. Not many months ago I had a strong illustration of the danger of operating in fistula without being previously made acquainted with the peculiar habits of life of the patient. An artist who resided at Chelsea was brought to me by his usual medical attendant, in consequence of his being the subject of fistula in ano. I ascertained the condition of the local disease, and at once stated that a cure could only be effected by operation. I inquired as to his usual health, and was informed that it was generally good, his appearance also seemed to corroborate this statement; I therefore merely ordered a slight aperient, and four days after performed the operation at his own house. The fistula was not very extensive, and the operation in every way less severe than usual; but directly after, the patient betrayed so much irritability that I ordered him to take thirty drops of laudanum, and an ounce and a half of camphor mixture: the next morning I found that he had had no sleep, and although not complaining of

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pain he was in a very restless state, and his manner was indicative of extreme anxiety; no secondary bleeding had occurred, and the wound appeared perfectly healthy. I ordered him a grain and a half of calomel and a grain of opium to be taken directly, and also the following mixture.—℞ Træ. Hyoscy. ʒij.; Liqr. Ammon. Acet. ℥jss.; Julep Ammon. ℥vjss. M. Capt. cochl. larga ij. quaque quart. hora. The next day he was in much the same state; he had never closed his eyes the whole night; he had been delirious, and during my visit was in the condition of one in great mental alarm, and symptoms of delirium tremens were beginning to manifest themselves. I now inquired of his wife whether his habits were intemperate, and after some hesitation she informed me that he frequently drank as much as a bottle of brandy in a day, commencing at an early hour in the morning. He remained in the state I have described for five days, at the end of which he died. This case, gentlemen, affords abundant instruction: it shows the necessity for scrupulously investigating the condition of the health of the patient, and also his general habits of living, before you proceed to the performance of an operation; for had I been acquainted with the excessive intemperance of the individual in the case just quoted, I should never have dreamt of performing the operation until I had taken measures to improve the tone of his health by the use of constitutional remedies, restricting him at the same time in the inordinate use of intoxicating liquors.

Operation for fistula in ano.—The effectiveness of this operation depends entirely upon the complete division of the sphincter ani muscle, for by its contractions it offers resistance to the free passage of the contents of the bowel, which thus have a tendency to pass through the abnormal opening, and keep up its fistulous character. If a probe be introduced into the opening through the skin, it can generally be pushed two or three inches upwards by the side of the rectum, and if, at the same time, the finger be placed in the bowel, the point of the probe can be readily felt through the parietes. I believe, however, that no communication is ever formed between the bowel and the fistula so far above the sphincter; no advantage is therefore derived from this extensive exploration, and it is, in my opinion, very bad practice to make an incision in the bowel so high up, for if a very extensive wound is unnecessarily made, large vessels are exposed to danger, and nature is called upon to repair a much greater lesion than is really requisite. The operation should consist in merely introducing the probe into the external opening, and in seeking, by gentle manipulation, for the ulceration into the bowel itself: this will usually be found immediately above the upper edge of the sphincter muscle, but if there should be any difficulty in discovering it, the probe-pointed bistoury may be gently forced through the parietes of the rectum, and the point of the knife being in contact with the finger, which has been already passed up the anus, the division of the sphincter may be effected by drawing both hands simultaneously downwards from the body of the patient, still keeping the finger and point of the instrument in firm contact. This operation removes the obstruction the sphincter muscle offered to the free passage of the fæces, which were consequently forced into the fistulous openings, but as the latter are destroyed by the operation the sinuses readily heal, and in a short time the disease is completely removed. To secure the granulation of the wound, and prevent the mere adhesion of its cutaneous surface, the whole of the divided part should be filled with lint, and the bowels kept in a state of constipation for some days, so that there may be no interference with the reparative action. When aperients are administered, the patient should be made aware that he will have no power to restrain the evacuation of the fæces: this must, of course, be the result of the division of the sphincter ani. In cases of neglected fistula in ano, the sinuses sometimes open at a considerable distance from the verge of the anus; so that, if the operation be performed, precisely according to the above description, a very extensive incision would have to be made through the gluteal region, to comprehend the whole length of the sinus. To avoid this, the operation may be modified as follows:—A probe is to be passed along the fistula into the bowel, and then bent by the finger in the rectum so as to bring the point out at the anus; the two ends should be drawn downwards to bring the sinus towards the surface; the probe is then to be cut down upon, just as it is entering the intestine above the sphincter, and, the probe-pointed bistoury being directed along the probe into the bowel, the probe may be withdrawn, and the bistoury made to divide the sphincter as already described. By this manner of proceeding two-thirds of the length of the fistula may remain undivided, and will readily heal, as there is no longer any cause for the fæces to pass into it. There is still another modification of the operation, which it may sometimes be advisable to adopt in certain cases of fistula, and I have myself had recourse to it. If on passing the finger into the bowel, for instance, for the purpose of examining the situation of the ulcerated opening, you discover that the hæmorrhoidal vessels are abnormally enlarged, as indicated by the strength of their pulsation, you may employ a ligature, instead of a knife, for the purpose of dividing the sinus and sphincter ani. The mode of performing this operation is by passing an eyed probe (furnished with a strong silk) through the sinus into the bowel, bringing one end of the silk out of the anus, and leaving the other hanging from the orifice through which the probe had entered. The probe should then be withdrawn, and the two ends of the silk tied tightly so as to compress all the intervening structures: the ligature requires to be tightened daily, for the constriction becomes lessened as the ulceration advances. In the cases in which I have performed this operation, I was surprised to find that the patients complained of even less suffering than in the usual plan of proceeding; that the wound healed as readily, and did not require to be filled with lint, as, of course, there could be no tendency to unite by adhesion. I may also tell you, gentlemen, that the hæmorrhage which sometimes follows the division of a fistula by incision is not only most alarming, but occasionally proves fatal; and therefore, in cases where there are indications that a larger quantity of blood than usual is sent to the part, it is highly important to avoid incising these vessels; and this may be done by substituting the ligature for the operation by the knife.

The term fistula in itself merely expresses the sinuous form of the abscess; but it is from its specific character that the surgical operation affords the only means of permanent relief; for, being lined with an adventitious mucous membrane, it becomes converted into a supernumerary excretory outlet, which would remain permanent as long as any communication with the rectum continued; and therefore it is that it demands the operation as described. A patient who has once been the subject of this disease must be considered as very liable to its recurrence; and, therefore, every means should be employed, by strict attention to diet, and to the natural state of the bowels, to prevent any source of irritation from acting upon the cicatrix; for, should that give way, it would be found extremely difficult to reunite it, and the failure in this effort would lead to the establishment of a permanently loathsome condition, produced by the existence of a passage for the fæces by the side of the anus.

A fistulous opening from the rectum may possibly communicate with the bladder, or with the vagina, causing the most distressing results; and such a state frequently occurs in cases of difficult parturition. I am acquainted with a case in which a lady was the subject of this lesion; and, after every attempt had been made to sew up the fistulous openings of the rectum and vagina, and other plastic operations had been ineffectually resorted to, Mr. Copland restored the patient to health by the mere division of the sphincter ani, which not only prevented retention of the fæces within the rectum, but, at the same time, precluded the necessity for the action of the levator ani muscle. The contents of the rectum, no longer meeting, therefore, with any obstruction to their passage from the anus, had no tendency to pass into the vagina, the fissure in which immediately healed. A lady was lately under my care, who was the subject of a fistulous opening from the rectum into the vulva, through which the fæces in part escaped. On examining the case, I passed a probe from the vulva into the rectum, and found both openings were so near to the outlets of the rectum and vagina, that, by passing a bistoury and dividing the perineum, I should completely lay open the whole length of the fistula and the sphincter ani at the same time; and this operation I was at the moment much disposed to perform, as it seemed at once to afford the readiest and simplest mode of insuring a speedy cure; still, I had some misgiving as to the certainty of effecting the ultimate filling up of the wound; and I consulted Mr. Copland on the subject: he recommended me by no means to adopt this plan, as he had known it upon three or four occasions to be had recourse to, and in none of them did the patients ever recover the power of retention of the fæces; so that they were in a much worse condition from the operation than from the original disease. The mode I ultimately adopted, therefore, was, to divide the fibres of the sphincter ani muscle, and pass a probe covered with potassa fusa through the sinus, so as perfectly to destroy the mucous surface of the fistula. As the granulations thus produced did not seem to fill up the opening, I brought the surfaces of the fistula in contact by means of a ligature, which came away in a few days, and the opening into the vulva was much diminished, but still the communication between the two organs was not obliterated. I then daily applied the tincture of lytta to the granulating surfaces, and the lady left London, although it could not be said perfectly cured, with the prospect of the granulations becoming ultimately converted into permanent tissue.

These cases, gentlemen, as well as those of lesions between the bladder and vagina, are most difficult to cure; and I believe that, unless the division of the sphincter ani itself promotes their obliteration, although other means may be somewhat accessory, they are never sufficient to produce a cure. My colleague, Dr. Lever, has had several cases of recto-vaginal and vesico-vaginal fistulæ, which he has attempted to obliterate by plastic operations, and by sutures, caustic, and actual cautery: the result of his experience is, however, that very few cases are ever permanently cured, although, by means of actual cautery, he has frequently reduced the abnormal openings to the size of a pin's head, but I believe that only in one or two cases has he succeeded in producing a permanent cure.

Lacerations of the rectum sometimes occur from external injuries, and one of the most frequent causes which I have known leading to this laceration is the extraction of stone from the bladder in the operation of lithotomy; but it is remarkable that these lacerations do not seem to offer the same difficulty in reparation as that which results from internal causes, although I have known one case in which a fistulous opening between the rectum and perineum remained permanent. The division of the sphincter ani in such cases affords the best prospect of cure. I have admitted patients into Guy's Hospital, with laceration of the rectum occurring from a fall on a sharp pointed body, such as a paling; and in two instances I have known the injury produced by the goring of an ox. Under these circumstances, the treatment consists in keeping the bowels moderately open, and the rectum completely cleansed from all fæcal matter after each evacuation: this must of course be done by means of injections. Should, however, the lesion in the rectum remain obstinately unhealed in consequence of the sphincter ani still retaining some contraction from its fibres having been but incompletely divided, the entire division of the latter should be effected; and this, unless some very untoward circumstances occur, is almost certain to produce a cure.

Stricture of the rectum.—All excreting outlets are furnished with a lining of mucous membrane, and appear to be susceptible to obstruction from abnormal contraction in the size of their canals, owing to the deposition of adhesive matter in the submucous cellular tissue. This liability to become obstructed from an adventitious deposit seems universal in these outlets from the puncta lachrymalia to the rectum itself. The œsophagus, especially in hysterical females, is subject to a difficulty in propelling the food, simulating in many respects the symptoms of stricture, but depending in reality upon temporary spasmodic action, which can be readily relieved by the use of narcotics and tonics. The rectum is, I believe, sometimes subject to the same kind of affection, which may also be relieved by the employment of similar anti-spasmodic remedies. Permanent obstruction in the rectum is, however, of frequent occurrence. A strong symptom of this is constipation, which is produced partly by the influence of the physical obstruction to the passage of the fæces, and partly by the voluntary suppression of them by the patient, from the dread of the acute pain so frequently experienced in the act of defecation. The egesta in stricture of the rectum are passed in small rounded portions, or if "figured," of very small diameter, from being forced through the contracted part: the patient usually complains of distension of the abdomen, interference with the function of respiration, and loss of appetite. With these symptoms an examination should be made per anum, at first with the finger alone, and this will probably lead to the detection of the obstruction, which is often very firm, and resists the entrance of the finger into the bowel. This excessive hardness may be produced either by scirrhus, or by a mere attack of inflammation, and, therefore, the hardness alone is not to determine the judgment of the surgeon as to the disease being malignant, as that question will be best decided by the age of the patient, the length of time the disease has existed, and by the nature of the pain. If, for instance, the patient be old, the pain constant, severe, and of a lancinating character, and he has great dread of exciting the muscular action necessary to the evacuation of the bowels, and if at the same time there is an appearance of what is termed malignant diathesis, the prognosis would be unfavourable. But, if the obstruction results from simple inflammation in a youthful patient, it will be indicated by the suddenness of its appearance, by the febrile symptoms attendant upon it, and by the peculiar sensation conveyed to the finger; for although there is considerable hardness, it is not of the stony character that marks scirrhus, but gives the idea of its being a dense projection of the natural structures into the bowel, rather than an adventitious deposit. When the disease is malignant, bleeding is frequent, particularly upon examination either by the finger or instrument, and the pain lasts for a considerable time after, which is not the case with common stricture. The treatment in the non-malignant disease consists in the occasional application of leeches around the anus, the patient being kept in the recumbent posture, and I believe that enemata will be generally found better than bougies, as the mechanical means of overcoming the obstruction, unless they act, indeed, too much upon the bowels, in which case bougies must of course be employed.

The introduction of a bougie is a matter requiring considerable skill and anatomical knowledge; and in this particular case also, a competent acquaintance with the change of the relative situation of the rectum consequent upon the position in which the patient is placed. From want of this knowledge, indeed, unskilful practitioners often do great mischief, sometimes wounding the rectum, from which accident extravasation of fæces, peritonitis, and death, may be produced. The bougie should, therefore, only be employed by scientific surgeons. Leeches, the recumbent posture, injections, and in some cases the use of the bougie, and cupping in the loins when the pain is severe, are the means to be had recourse to in non-malignant obstruction. And often, by such measures, a disease which at first appeared to be of an alarming character, is quickly removed. In malignant disease but little can be done: the adventitious matter indefinitely increases, so as at length completely to obliterate the bowel, and the patient dies from the insuperable barrier opposed to the escape of the excretions, unless an artificial anus be made in the colon, or as some surgeons have recommended, a cutting gorget, or some instrument of the kind be forced through the obstruction; but this if it afford any relief, can only do so temporarily. Scirrhous stricture generally destroys the patient, however, by the propagation of the malignant disease through the medium of the absorbents to some distant part: thus, perhaps, transplanting it to important vital organs, in which case the reaction on the constitutional powers is very rapid, and the patient soon sinks beneath its influence.

DISEASES OF THE GENITO-URINARY ORGANS.

The most frequent of all the diseases to which these organs are liable is stricture of the urethra. The urethra can scarcely, however, be considered as a genital organ with reference to stricture, since, in case of its obstruction, the symptoms relate only to its function as an apparatus of micturition. At the same time the procreative power is sometimes to a certain extent interfered with, and therefore it is that I have thought it proper to treat of stricture of the urethra under the above heading.

The genito-urinary organs are placed partly within the abdomen, and partly external to it: thus the prostate gland, the vesiculæ seminales, portions of the vasa deferentia, and part also of the urethra and the bladder, are internal to the abdominal cavity, while the remainder of the urethra and the testicles are external. Our attention is now, however, to be directed to the urethra, which has to perform a double function, viz., that of micturition, and that of procreation. As a micturating organ the urethra is passive, but as one of generation it is endowed with great excitability; and it is when in a state of excitement that it is chiefly susceptible to the influences that induce obstruction it it, although when thus affected the symptoms relate entirely to the difficulty in passing the urine.

You are doubtless aware, gentlemen, that the calibre of the canal of the urethra is not equal throughout its whole extent: it has, indeed, three points of contraction, and three of dilatation. This peculiar conformation of the urethra should always be borne in mind in introducing the catheter or bougie, otherwise the slight obstruction offered to the entrance of the instrument by the natural contraction in the canal, may be mistaken for an abnormal condition. The first contraction of the canal is found at its entrance in the glans, and this contraction sometimes produces a difficulty in the very first step in the operation for lithotomy and lithotrity, as the meatus may in consequence be so small as to prevent the entrance of a sufficiently large instrument; this is, however, a difficulty that can easily be removed by enlarging the meatus with a probe-pointed bistoury, when, as the contraction usually exists merely at the urethral orifice, the instrument may be readily introduced. The second contraction is situated at the membranous part of the urethra, and at this point there is always some little difficulty in passing a catheter, not only from the natural diminution in the size of the canal, but also on account of the curved direction which the urethra takes in its passage through the deep fascia of the perineum: this curve can, however, be overcome, by slightly stretching the penis, and holding it at an angle of about 45° while the catheter is being passed. The third contraction is within the prostate gland, just behind the vera montanum; this offers, however, no impediment to the passage of an instrument. With respect to the dilatations alternate with the contractions, I do not know of any important points for your study and consideration. The first of them is situated just within the glans penis, and is termed the fossa navicularis; the second in the corpus spongiosum, and the third within the prostate gland; in the latter, the vasa deferentia and ducts of the vesiculæ seminales terminate. Within the urethra there are also small valvular openings termed lacunæ; they are placed upon the upper surface of the canal, and are for the purpose of secreting a fluid for its lubrication. The largest of these openings is placed about an inch and a half below the meatus; it is termed the lacuna magna, and is the principal seat of gonorrhœa. The surgeon should pay particular attention to the position of this opening, as in passing small bougies they often become entangled in it, so as to induce the belief that a stricture exists, whereas the obstruction arises only from the natural formation of the part resulting from the free edge of the valve being directed forwards towards the opening of the urethra.

Original Communications.

CASES OF PNEUMONIA, VARIOUSLY TREATED;

WITH BRIEF OBSERVATIONS.

Read at the South London Medical Society, Oct. 12th, 1848.

BY H. M. HUGHES, M.D.

Assistant Physician to Guy's Hospital, and late President of the Society.

[Concluded from p. 747.]

CASE X.—*Pneumonia—Pleuritic effusion doubtful—Almost entire absence of characteristic constitutional symptoms.* (From the Report of Mr. TASSELL.)

M. N., aged 43, admitted, under my care, into the hospital, June 4th, 1848. A thin, sallow-looking woman, of light complexion. She had last year been an out-patient at St. Thomas's Hospital for cough and pain in the side; and, though she got much better, she never quite lost her cough. Six weeks ago she was admitted into this hospital for tertian ague, and in three weeks became well enough to undertake the duties of a night-nurse, though she had not even now got completely rid of her ague. Three days ago, after exposure to cold while in a heated state, she was seized with rigors and vomiting, followed by heat, headache, and perspiration, and subsequently suffered from alternate chills and heats, with copious perspiration at night, violent cough in paroxysms, and pain of the left side, for which she was ordered, by Mr. Stocker, Cataplasma sinapis lateri sinistro; Pil. Antim. Opiat. c. Hydrarg. Chlorid. gr. iij. statim sumend; Vin. Ipecacuanh. ♏xxx.; Tr. Hyosciam. ♏xx. ex Julep. Ammon. Acetatis 6ta quaque horâ.

June 5th.—When she was first seen by myself, she complained of cough, preventing sleep, and of pain, increased on pressure, in the lowest part of the left side anteriorly, though no abnormal physical signs existed there. Posteriorly, at the lowest part of the left subscapular region, there existed absolute dulness on percussion, absence of the respiratory murmur and of resonance of the voice; while, upon a level with the inferior angle of the scapula, near to the spine, were easily recognised tubular breathing, and very marked œgophonic bronchophony (over a limited space), around the greater part of which was heard distinct muco-crepitating rattle. The rhythm and sounds of the heart were normal, but the impulse was feeble. The skin was hot, but perspiring; the tongue furred, white, and moist; the pulse frequent and feeble. Ordered—C. C. part. indicatæ ad ℥vj.; Pil. Antim. Opiat. fort. c. Hydrarg. Chlorid. gr. ij. quaque nocte; Vin. Antim. Potassio-tart. ♏xl. ex Julep. Menthæ 6ta quaque horâ.

6th.—She had been relieved by the cupping, felt better, and had passed an easier night; the bowels had not been opened for two days; the cough was still troublesome; the physical signs were the same as before; pulse 80.—Capt. Olei Ricini, ʒvj. Pergat.

7th.—No remarkable change; she continued to perspire freely; still complained of pain in the left side, and of cough; tongue furred; pulse feeble.—Cap. Pil. Antim. Opiat. 6tis horis; Empl. Cantharid. lateri sinistro applicand.

10th.—Complained now of pain in the left lumbar region. The dulness on percussion, the bronchophony, and the tubular breathing, were less distinct, and healthy respiration was gradually becoming distinctly audible inferiorly; pulse 70. The pain, supposed to depend upon flatulent distension of the colon, was at once removed by an assafœtida enema. Ordered—Hydrarg. Chlorid. gr. j.; Opii, gr. ss. ft. Pil. quaque nocte sumend; Liq. Potas. ♏x.; Inf. Calumbæ, ℥iss. ter die sumend.

14th.—All the physical signs had diminished, and muco-crepitating rattles were now heard in the very spot in which tubular breathing and bronchophony formerly existed. — Pergat.

After this, all the symptoms gradually decreased, the dulness disappeared, and pure respiratory murmur was distinctly audible throughout the entire left side of the chest. She afterwards, however, suffered from dyspnœa, which was easily checked by chalk mixture; and subsequently had a return of her ague, which was stopped, and her strength was improved by fifteen-drop doses of the solution of the amorphous quinine. She was, however, quite well, and "presented" by the end of the month.

This case was probably considerably modified by the miasmatic affection of the patient. The ague was suspended, though the skin was always moist during the progress of the inflammatory complaint of the chest, and reappeared upon its removal. I think it at least probable that, without the aid of physical signs, the nature of the affection of the lungs would not have been discovered. It was only by minute examination that the cause of the symptoms was ascertained, and that the treatment above recorded was with confidence adopted.

CASE XI.—*Pleuro-pneumonia suddenly stopped by venesection, &c.* (From the Report of Mr. TASSELL.)

R. B., aged 17, admitted into the hospital, under my care, June 14th, 1848. A girl of full habit, florid complexion, and light blue eyes; had always enjoyed good health, and had been a "teetotaller" for six years. Two months ago she got cold from damp feet, and was afterwards troubled with hoarseness, which continued till five days ago, when, after getting hot, and being exposed to cold, she was attacked with shivering, headache, and pain in the right side, for which she had taken medicine without relief.

On admission, her face was full and flushed; her expression heavy and languid; her skin hot; her tongue loaded, moist, and white, with red tip and edges; her respiration hurried; her pulse 95, and soft; she had a hacking cough upon inspiration, and complained of pain in the right side. Dulness on percussion existed both before and behind, below the right scapula and mamma. Anteriorly was heard, upon auscultation, pleuritic rubbing; and posteriorly, crepitating and muco-crepitating rattles. Ordered —V. S. sed prima signa deliquii; Pil. Antim. Opiat. c. Hydrarg. Chlorid. gr. j. 6tis horis c. Julep. Ammon. Acetatis.

15th.—All inflammatory symptoms had disappeared, and she felt and looked quite a different person. The dulness on percussion and posterior crepitation had vanished, though the anterior pleuritic rubbing remained. Pulse 70, soft; tongue clean; breathing easy; pain almost gone.—Pergat.

11th.—Pain had quite ceased; a pleuritic creaking ("craquement de cuir") in the situation of the former rubbing, alone remained of the physical signs, and a slight loose cough was the single constitutional symptom now existing. Pulse 60.—Emplast. Lyttæ lateri dextro; Rep. Pil. quaque nocte.

21st.—Pleuritic creaking had disappeared; she made no complaint, and appeared quite well; "presented" a few days after.

This appeared to myself to be a genuine though not very severe case of pleuro-pneumonia, in a strong, healthy young person, cut short by the operation of venesection.

CASE XII.—*Pneumonia—absence of general symptoms—treatment by opium—mild mercurials—ammonia, and poultices.*

In the afternoon of Sept. 2nd, 1848, I was requested by Mr. Rendle to visit Mrs. S., aged 32, of whose history I was politely furnished with the following particulars by that gentleman:—She was a person of light complexion, delicate in appearance, and of nervous temperament, and had been occasionally liable to attacks of neuralgia, hysteria, and hypochondriasis, and previously also to slight hæmoptysis, which had induced her medical attendant to believe her phthisical. In consequence of severe affection of the bowels, she left Hull on the 26th of August by sea, and suffered very severely from sea sickness, from the effects of which she was continuously inconvenienced, till seen by Mr. Rendle on August 30th, when she had pain at the scrobiculus cordis, increased upon pressure, and occasional vomiting, &c. &c., for which appropriate remedies were prescribed. On Sept. 1st, the cough, which was habitual, had increased, the pain had extended to the right side, and was severe and lancinating: for this four leeches were twice applied, and calomel and opium, and an aperient draught, administered. During the succeeding night evidence of want of power appeared; the surface was clammy, the cough constant; she complained of constriction of the chest, sinking and distressing restlessness, for which Liq. Opii and Ammonia, with warmth to the surface, were appropriately and advantageously prescribed. I saw her on the following day, and found her with a sunken countenance, a frequent cough, with mucous expectoration; a moist and not very loaded tongue; a cool moist skin, and pulse varying from 120 to 126, without any physical evidence of disease anteriorly in the former seat of pain, but with obvious signs, posteriorly, of consolidation—as dulness on percussion, tubular breathing mixed with muco-crepitating rattle, and bronchophony in the whole of the right side below the scapula. Ordered—Cataplasma, Lini. magn. lateri dextro; Ext. Papaver. gr. ij.; Hydrarg. c. Cretâ, gr. ij. nocte maneque; Potass. Nitrat. gr. v.; Potass. Bicarb gr. xij; Vin. Ipecac. ♏xv.; Sp. Ammon. c. ♏xx. ex. Aq. 6tis horis.

Sept. 3d.—Mr. Rendle's report was, that she was improving, and the pulse decreasing in frequency. He applied a blister, and continued the medicine.

On the 4th I saw her again, when all evidence of consolidation had ceased, and a little mucous rattle alone remained in the part previously affected, though some suspicious indications of latent phthisis were observed. The treatment was continued till the 10th. As I did not see her afterwards, I may add, in the words of Mr. Rendle, that the physical signs of the pulmonary affection diminished daily, and her pulse was reduced in number to 80 or 85. From this time the patient's convalescence was complete. Mr. Rendle adds, in his observations, "I believe that the general distress in this case depended in some degree upon a highly nervous temperament, and that the leeches and antiphlogistic treatment tended in no way to abate the disease. If it had been still treated actively and antiphlogistically, I have no doubt that this patient would have died; and I believe that opium and ammonia were administered with the happiest effect." To these observations of Mr. Rendle, I think it necessary to add nothing, as with them I entirely concur.

Case XIII.—*Pleuro-pneumonia — absence of general symptoms—treatment by mild mercurials, opium, and poultices and blisters.* (From the notes of Mr. Waterworth, Jun.)

M. M., a female servant, aged 42, unmarried, was admitted under my care (for Dr. Addison) September 6th, 1848. About ten days since, after being troubled with cough for some days previously, she was seized with dyspnœa, shivering, and pain in the left side. Upon admission she still complained of these symptoms; the pulse was quick and small; the tongue white, but moist, and the respiration hurried, but the skin soft, and perspiring. Upon examination of the chest, dulness existed below the left mamma, together with marked crepitating rattle, and œgophonic bronchophony. Posteriorly the percussion, and sounds upon auscultation, were normal.

Ordered—Hydrarg. c. Cretâ, Pulv. Ipecac. C. aa. gr. ij. nocte maneque; Mist. Conii c. Vin. Antim. Tart. ♏xv. 6ta quaque horâ; Cataplasm. Lini. lateri sinistro.

13th.—Up to this date she continued gradually to improve, and the physical signs to diminish under the same treatment. Upon this day the gums were slightly affected by the mercury. She still complained of pain in the side, and was ordered Empl. Lyttæ lateri sinistro. Pergat.

16th.—All crepitation, dulness, and bronchophony had entirely disappeared, but she still complained of cough.

20th.—The gums were sore, and she felt much better. Ordered—Inf. Gentian. c. c. Potassii Iodidi, gr. ij.; Tr. Camph. c. ʒss. ter die. Omitt. Pil. From this time she had no indication of her inflammatory complaint, though it appeared probable that she would ultimately, like the subject of the former case, fall a sacrifice to tubercular disease of the lungs. She was soon after presented.

Here, as in the former case, it was believed that active antiphlogistic treatment would have been decidedly injurious. Here, as in several others of the cases which have preceded, the disease was of an asthenic form, was accompanied by few of the ordinary constitutional symptoms, and its existence was determined almost solely by physical signs. To have bled, or even largely to have leeched or cupped the patients, who were the subjects of the 8th, 10th, 12th, and 13th cases, would probably, to say the least, have rendered their recovery much more tedious, if, indeed, it had materially interfered with its completion; whereas in the girl the subject of the 11th case, and in another, venesection appeared at once to stop the progress of, if not entirely and immediately to cure the disease. In the juxtaposition of these and similar facts consists one main object of the present communication.

Thirteen cases of pneumonia have been here presented to the notice of the Society. If they constitute not all the cases of *primary* pneumonia, or pleuro-pneumonia, which have been under my care during the last year, I certainly possess notes of none others. No selection has been made. Of these thirteen cases, one died during the progress of the disease indeed, but I believe not of the disease itself. For, whatever might have been the ultimate result of the pneumonia in this lady, which must of course remain doubtful, I think it must be obvious to all that the immediate cause of death was the exceedingly acute pleurisy of the left side, and the pericarditis occurring in a person whose respiratory functions were already greatly embarrassed by the almost entire consolidation of the right lung. I am not about herein to insist upon the importance of the physical signs of disease. I have already in this communication, and repeatedly on former occasions, dwelt upon the indiscretion, and even danger, of trusting entirely to such indications of disease, without taking due cognizance of the previous history and general symptoms. I do not, therefore, fear becoming obnoxious to the charge of taking too great an account of, or of giving undue importance to, auscultation and percussion, in submitting the following brief summary of the thirteen cases succinctly related above, to the notice of the Society:—

In eleven of the thirteen patients, pain was felt, and two had none. Of cough, two patients had none; in two, the cough was very trifling indeed, and in seven it was more or less constant and severe. As to the expectoration, seven out of the thirteen patients had none, or none could be preserved, or was ever seen by the physician or his clerk: in four it was white and frothy, and more or less viscid, and in two only it presented the characteristic red, or rusty colour, combined with viscidity. In eight cases out of the thirteen the skin was hot and dry, and more or less pungent to the hand; in one it was hot, and at the same time perspiring; and in four it was cool and moist. Physical signs of disease, more or less characteristic and obvious, were present in all the cases.

Having in the opening paragraph of this communication already directed the attention of the Society to the variety of treatment adopted, with the view of insisting upon the importance of investigating each individual case of disease, and more particularly of acute disease, by itself, and upon the injudiciousness, to say the least, of being directed in our method of treatment by mere figures, or, in other words, of combatting by our remedies a mere name, without being influenced therein by peculiar attendant circumstances; it is not necessary that I should say more in conclusion, than that, proper and desirable as venesection may be in some cases of pneumonia, I feel assured, that had some of these patients been bled, they would almost infallibly have died, or, at any rate, would have been the subject of a most lingering and tedious convalescence; and that, on the other hand, had some of these patients not been bled, their recovery would have been in the highest degree doubtful. Perhaps even cupping, and calomel and opium, are, as antimony most assuredly is, to a certain degree, at least, obnoxious to the same observations as remedies in this complaint: yet all these cases were, I firmly believe, cases of pneumonia. If such be truths, how, in actual practice, can be available the "methode numerique," at least in reference to the treatment of disease? What becomes of the so-called philosophical school of medicine? How is it possible to act upon the theoretical dogmas of "young physic" with justice to the patients committed to our charge?

TWO CASES OF

PURPURA, WITH ANALYSES OF THE VENOUS BLOOD.

By E. A. Parkes, M.D.
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So few analyses of the blood in purpura have been published, and so many will be required before the constant and essential changes in this fluid can be determined, that the two following observations, incomplete as they are in many respects, may be acceptable to those who are interested in that important class of diseases, which seem to have their commencement in alteration of the blood. I selected these two cases for analysis, because they were well marked and undoubted instances of the disease; they appeared to be without complication, and as they occurred in young persons of different sexes, who had previously enjoyed good health, I believed I should obtain the blood as near the standard of health as possible, except in so far as it was altered by the disease itself.

Case I. William Marsh, æt. 23, an out-patient, University College Hospital, July 25th, 1848.—A stout, robust, healthy-looking young man, with a fresh, ruddy complexion. He gave the following account of himself. He had always had excellent health, and was of temperate habits. His trade was that of selling fruit in the street, and he had been consequently somewhat exposed to weather, but he had never suffered from this, except in having an occasional sore-throat. Up to the six months previous to his coming to the hospital, he had lived well; since that time his trade had been slack, and he had lived rather indifferently. During these six months he had had meat about once a fortnight, about lbj. of bread every day; 2 or 3 potatoes 3 or 4 times a week; beer Oss. to Oj. daily. He had also had currant puddings, and puddings of flour and water, nearly every day. He had been accustomed to eat the fruit off his stall, and while in season, had eaten gooseberries, cherries, currants, and apples. He had taken no oranges, or milk, butter, or eggs. He had never been in want of the kind of food stated above, and had not known what it was to feel decidedly in want. Till the night before he came to the hospital, he felt as well as usual; he then experienced slight shivering; he had no pain in the back or aching of the limbs; during the night an eruption appeared on the legs. When he came to the hospital he said he was frightened about the eruption, but otherwise he felt perfectly well; there was no shivering, muscular weakness or weariness, or aching of the limbs. Over the whole of both legs were hæmorrhagic spots, and large patches of a deep port wine colour; the smallest spot was a mere point; the largest about the size of a sixpence. They were very slightly, if at all, elevated above the level of the skin, and were unaltered by pressure; the large spots were in some parts of their peripheries abruptly defined; in others, little prolongations, which were plainly formed by dilated and rather tortuous vessels, were sent off into the surrounding pale skin. The spots were not connected with the hairs; they were most marked on the anterior surface of the leg, and commenced immediately below the knee; they were less numerous on the calf; there was no pain or hardness in the hams; there was a little stiffness in the left knee, which he seemed not to have noticed till asked about it; there were no bruises or ecchymoses. The gums were pale and perfectly healthy; the pulse was natural. Skin of trunk and arms normal.

He was directed to remain quiet in the horizontal position, to take meat daily, and he was ordered 10 grains of Potash three times a day. He was directed to return on the 27th July, when it was thought the disease would be still more developed.

On the 27th of July he came down again; the old spots were paler, but some fresh ones had appeared: these were, however, smaller than the original ones. He had taken the previous day ½ pound of beef for dinner, with bread, but no vegetables; for supper he had bread and cheese, and for breakfast bread and tea, without milk.

He was now carefully examined with a view to the detection of any local lesion or complication; the chest was well formed, expanded well, and sounded every where well on percussion; the breath sound was normal; there was no cough or expectoration; the heart was of its natural size, in its normal region, and the sounds were natural in rhythm and tone; the abdomen was supple and not tender; the liver was in its natural limits. There was no pain across the loins, nor tenderness on grasping the kidneys; the urine was non-sedimentous, acid, without albumen, and of specific gravity 1032. The gums were perfectly healthy; the lips red; there was no venous or arterial murmur; the muscles were firm, and largely developed. The only alteration which could be made out was slight chronic enlargement of both tonsils, which were, however, nearly pale; he had never had any hemorrhages. He had taken no medicine except one drachm of Nitrate of Potash. When asked to assign a cause for the present attack, he was unable to do so.

Blood was now taken from the arm, and was received into three bottles; the blood came out in a full stream, and did not trickle down the arm; it was of its natural colour. The blood in the first bottle was beaten, the others were allowed to coagulate. Coagulation commenced in the usual time. Three hours subsequently the clots had shrunk and expelled some natural-looking clear or slightly opalescent serum. 24 hours afterwards the separation was complete, the clots were rather voluminous, not buffed or cupped. The serum was alkaline, slightly yellow in colour.

Specific gravity of the defibrinated blood	1055·5
Specific gravity of the serum .	1028·5
Temperature 65° Fah.	
Solids of the blood in 1000 parts estimated from the 2nd bottle	200·97
Water	799·03

The fibrine was estimated in two ways, from the beaten blood, and by washing the clot of the third bottle; this was done both to check the experiment and to ascertain if the fibrine varied at different periods of the bleeding. The fibrine, after boiling in alcohol and ether, was found from the first method to be in the proportion of 2·066; and from the second method, to be in the proportion of 2·11 in 1000 of blood,—a sufficiently exact approximation. The average of the two was 2·088.

The solids of the serum were estimated by evaporating the serum of the third bottle. The total amount of solids was 90·15 in the 1000 of serum. The salts were obtained by incinerating the dried serum with nitric acid; their proportion was 7·691 in the 1000 of serum. In order to test this result, a weighed portion of serum was coagulated rapidly, and was then repeatedly washed with boiling distilled water; the solution was evaporated; the organic matter burnt off, and the inorganic contents obtained in the proportion of 7·104 per 1000 of serum, a result which, with an allowance for the salts which either enter intimately into the composition of the albumen, or adhere to it so strongly as not to be detached by washing, may be considered sufficiently near to the proportion obtained by incinerating the dried serum. My friend Dr. Garrod, who was kind enough to examine the serum, determined the salts to be 7·699. By the experiment of washing the coagulated serum, I also obtained the proportion of incoagulable soluble organic matters as 6·04 in 1000 parts. In the 1000 parts of serum, there were therefore 76·41 parts of coagulable organic matters, 6·04 parts of incoagulable organic matters, and 7·691 of inorganic substances. In 1000 of blood, these three series of numbers are as follows:—67·103, 5·304, and 6·864.

The coagulating point of the serum was between 164 and 166° Fah.

By deducting the weights of the fibrine and the solids of the serum in 1000 parts of blood, from the weight of the solids of the blood, the red particles are given in the proportion of 119·611 in the 1000 parts.

The examination into the organic constituents was not conducted farther. The several fats were left undetermined.

The principal inorganic constituents only, were determined.

In consequence of Dr. Garrod's ingenious hypothesis, that scurvy, a disease perhaps allied to, though distinctly different from purpura, depends upon deficiency in the potash salts, I was anxious accurately to estimate the amount of potash in the serum. This was done in two experiments. In the first, the salts of the serum were dissolved in distilled water; a few drops of hydrochloric acid, and an excess of chloride of platinum were added; the solution was evaporated to dryness, and the excess of the chloride of platinum, and the other salts, washed out with repeated relays of alcohol. The remaining double salt weighed at the rate of 2·84 per 1000 parts: this gives ·5637 of potash (KO). In the second experiment the washings of the coagulated serum, freed from organic matters, were treated in the same way; 2·08 of the double salt was procured, which gives .388 on the proportion, in 1000 parts; this is ·1728 less than that obtained by the former experiment, but still within the limits of health. The average of the two experiments is .4758.

The other inorganic constituents were estimated from the dried blood. A portion of dried blood was incinerated, and well washed with boiling distilled water: the difference of its weight after incineration, and after washing, was considered as the weight of the soluble salts. The soluble salts in the blood in three experiments seemed to have the proportion of 8·8 parts in the 1000, thus exceeding the entire of the salts of the serum in 1000 of blood by 1·936. The chlorides were estimated by precipitating the chloride of silver. The quantity of chlorine obtained was nearly the same in three analyses: the chlorides of sodium and potassium together were determined at 3·731 per 1000 of blood; and calculating the proportion of potassium in 1000 of blood as about ·426, the latter salt may be supposed to be about ·811 of this quantity. The phosphoric acid was precipitated as phosphate of alumina in the manner recommended by Frick: the quantity of phosphate of soda (estimating it as 3 atoms of fixed base, since the atom of water is driven off by incineration) was ·625 in 1000 of blood. The sulphuric acid was estimated in a single analysis, and the proportion of sulphate of soda in 1000 of blood appeared to be ·363. It thus appears that there were other soluble salts remaining undetermined, or possibly that the above figures did not express the true amount of the chlorides, phosphates, and sulphates. This point, however, was not inquired into.

Of the insoluble salts, the iron and lime were alone determined.

After washing out all the insoluble salts from the incinerated blood, the remainder of the carbon was carefully burnt off with nitric acid: the residue consisted of all the insoluble salts, the iron, lime, copper, &c. The iron was estimated in two ways; by dissolving out the lime with boiling acetic acid, and considering the insoluble portion as consisting of phosphate and peroxide of iron, and also by dissolving the whole residue in hydrochloric acid, and after separation of the lime precipitating the iron as peroxide, which was then collected, washed, heated to redness, and weighed. The two processes gave closely approximative results. Thus by the first method in three trials the iron was found to be in the proportion of 1·38, 1·4, and 1·205 per 1000 of blood. By the second method in one trial, the proportion was 1·2 per 1000. The average of the whole was 1·296.

The lime was estimated by precipitation as oxalate and as sulphate: the average of two experiments which nearly agreed, was ·077 in the 1000 parts.

The general summary of these results may be thus given :—

Fibrine	2·088
Coagulable organic matters of serum, albumen, &c. .	67·103
Incoagulable organic matters of serum, extractive, &c. .	5·304
Salts of the serum	6·864
Red particles	119·611
Water	799.03
	1000·000

Chloride of sodium	2·938
Chloride of potassium . . .	·811
Phosphate of soda	·625
Sulphate of soda	·363
Peroxide of iron	1·296
Lime	·077

In reviewing this analysis, the most important points appear to be—1st, that there is a general lowering of the proportion of the solid parts in the blood; 2nd, that the relative proportion of the organic materials to each other seems nevertheless to have been preserved; 3rd, that the most striking alteration in the inorganic compounds consists in a marked increase in the quantity of iron.

The solid contents in the blood of this robust, and, with the exception of purpura, healthy young man, should have been at the rate of at least 208 in the 1000 of blood: the fibrine would then have been at the rate of 2·171, which, although below Andral's standard,(3) is nearly equal to Becquerel's, (2·2) and is above Simon's healthy average, when the solids are 208 per 1000; the red particles would have been 124·395—a porportion which, although below Andral's average, (127) and much below Becquerel's, (141) is yet considerably above Nasse's healthy standard, (116·529) and is in fact obviously very close on the normal amount. The organic principles of the serum would have been 75·303, which may be considered as the proper amount.

The salts of the serum are, if any thing, a little above the mean; and it is an interesting point, that the soluble salts of the blood are greater in amount than both the soluble and insoluble salts of the serum in 1000 parts of blood, and are even a little over the amount of the salts of the serum in 1000 parts of serum—viz. as 8·8 is to 7·691. The difference is, I presume, to be attributed to a difference in the composition of the salts of the red particles, or of the fluid contained in them; but the exact nature of this alteration I did not determine. The proportion of lime is below Nasse's average, (·183) but still, perhaps, within the limits of health. The increase in the iron is very conspicuous: the average quantity of peroxide may be taken as ·800 in the 1000 of blood. Becquerel gives it as ·566. Frick,* in a very able paper on the blood in several diseases, makes the amount ·582. In any case the proportion of 1·2 in the 1000 parts is excessive. If we disregard the small portion of iron uncombined with the red particles, and consider the iron to bear a constant relation to the amount of particles, as, indeed, it seems nearly to do, and suppose, with Frick, 127 particles to correspond to ·58 of iron in the present instance, as there were only 119·6 of corpuscles, the iron should properly have been reduced to ·541, whereas in the lowest of the analyses it is 1·2. The quantity of potash appeared to be nearly normal; but as the patient had taken ʒj. of nitre in the two days previous to being bled, the experiment was not conclusive. The point with which I was least satisfied in the analysis was the determination of the phosphates: the phosphate of alumina, although an insoluble salt, has in other analyses given me a lower amount of phosphoric acid than that obtained by other methods; unfortunately I had not time to repeat the experiment.

The inferences from this analysis will be presently alluded to.

On the same day that this man was bled, he brought down the whole quantity of urine he had passed from the time of his going to bed at 10 P.M. July 26th, to 9 A.M. July 27th. This urine measured 17½ oz., and had a specific gravity of 1032. It was clear, and had an acid action. The solid contents in 1000 grains were by calculation 52·8, and by actual evaporation and weighing, 53·6. This made the whole solid contents of the 17½ oz. to amount to 450·24 grains, all of which had been passed in eleven hours. There was abundance both of urea and of uric acid in it; but there was no time to make a quantitative analysis. The man stated that he had passed an equal amount of urine from 9 A.M. July 26th—viz. in the other 13 hours of the 24; and supposing that the density of this was the same as the night urine, which is perhaps unlikely, he would have excreted in 24 hours more than 900 grains of solid matters. After standing for 24 hours there was no sediment.

The patient was directed to continue the nitrate of potash. On the 29th July, he came down again: the finger was now pricked, and the blood corpuscles examined under the microscope; they were in every respect natural; the purpuric patches were much paler, and only a few small fresh spots had appeared; he said he felt perfectly well. He brought the urine he had passed from 9 o'clock on the previous evening to 10 A.M. It measured 21 oz., and had a specific gravity of 1030, which gave by calculation 49·5 of solids in 1000 parts. The large excretion of solids was, therefore, still continuing. It was clear, acid, without sediment or albumen.

On the 1st of August the old patches had nearly disappeared, only two or three fresh purpuric spots had appeared: the patient said he considered himself well, and returned to his work. He has not since been seen at the hospital, so that there has been no relapse.

[To be continued.]

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* American Journal of Medical Sciences for January, 1848.

ON THE

NARCOTIC POISONS,

PARTICULARLY OPIUM, AND THEIR ANTIDOTES.

BY FRANCIS SIBSON.

[Continued from p. 583.]

1. *Alston's and Monro's experiments proving that opium can be absorbed into the circulation through the skin of the frog, and that they can only act on the whole organism through the medium of the circulation.* 2. *Whytt's experiment, apparently opposed to the universality of the last inference.* 3. *Absorption into the circulation from the stomach and intestines.* 4. *On the treatment of narcotic poisoning by the elimination of the poison from the blood.* 5. *Action of opium on the capillaries, arteries, and veins.* 6. *Perspiration in poisoning by opium.* 7. *Obstruction to the circulation in the capillaries caused by other narcotic poisons.* 8. *Asphyxia, producing obstruction to the circulation in the systemic capillaries.* 9. *Inflammation, producing the same effect.*

1. I PARTICULARLY solicit a re-perusal of the very interesting experiments by Dr. Alston, and the experiment by myself, in which I combined both of those by Dr. Alston, in the paper of which this is a continuation (MEDICAL GAZETTE, p. 581).

Before studying the effect of opium on the circulation, I shall inquire into the proofs that that poison, and indeed other poisons, are received into the circulation, wherever they are applied, before they can act on the system.

In Dr. Alston's first experiment, he put a frog into a pot containing an aqueous solution of opium, and the result was, that next morning the frog was dead.

This experiment tended to prove that the opium might penetrate and poison the system through the skin. Dr. Monro remarks, that in this way of making the experiment, the water with the opium might enter the mouth. To obviate this objection, and to prove that the animal is affected in the same way, whether the opium is applied inwardly or outwardly, Dr. Monro performed the following experiment:—

"About a hundred drops of a watery solution of opium were applied on scraped linen to the skin of the belly and hind legs of a frog. After two hours the animal began to be convulsed and extended, and the blood had entirely ceased from motion in the hind legs. After three hours it was more violently convulsed, and unable to move its body out of the place where it lay. After five hours it shewed no outward sign of life; and though the solution was removed, and the legs washed, the animal did not recover." (Physical Essays, iii. 305.)

I tried the plan adopted by Dr. Monro, but did not observe the results described by him until I plunged one leg into a test tube containing a solution of opium, as I detailed in the previous paper. Dr. Monro's and Dr. Alston's experiments, of which my own is merely a modification, prove that animals "may be affected by the absorption of opium, and its mixture with their circulation."

That he might ascertain whether opium could act on the whole system through the medium of the nerves alone, Dr. Monro performed the following experiment:—

"I cut all the organs at the pelvis, except the large nerves that go to the hind extremities. Then I tacked the hind legs by threads to the trunk of the body, to prevent the nerves from being over-stretched or torn; after which I injected thirty drops of the solution of opium under the skin of both hind extremities.

"Ten minutes thereafter, the hind legs were less sensible, and much weakened, and, in a quarter of an hour more, they were quite insensible and motionless; yet the fore part of the body was not observably affected six hours thereafter, and the animal lived until the next day."

This experiment proves that opium applied to the hinder limbs will not act on the anterior part of the body, when the current of the circulation is cut off, although the nervous connection be preserved.

The following experiment by Monro is the reverse of the last one: in that he divided the vessels, leaving the nerves intact; in this he destroyed the spinal marrow, leaving the vessels intact:—

"I cut the spinal marrow across at its middle, and then destroyed, with a red hot wire, the hind half of it; and, twenty hours after this, applied about a hundred drops of the solution, on scraped linen, to both hind legs. After three hours, the animal cried when the fore part of it was touched. After four hours it began to be convulsed, and the blood had ceased from motion in the hind feet. After eight hours it showed no outward sign of life.

"This experiment demonstrates that opium can affect animals universally after all communication of the nerves to which the opium is primarily applied, with the rest of the nervous system, is cut off, by destroying the origin of those nerves, or cutting them through in their progress. Whence it follows that the opium must have produced these deleterious effects by being absorbed and conveyed with the blood to organs of the body distant from those to which it was primarily applied." (Loc. cit. 337.)

I make no apology for introducing these experiments and remarks; so clear are they, compact and conclusive, that they spare any extended reference to the many valuable and more recent experiments which go with them to establish these laws—that narcotics may be absorbed into the circulation from the external surface, and that they can only act on the *whole* organism through the medium of the circulation.

2. Dr. Whytt details an experiment —it was confirmed by Dr. Monro,— which apparently upsets the universality of this law, that poisons can only act on the whole organism through the medium of the circulation.

"A frog continued to move its limbs and leap about for above an hour after I had cut out its heart, and was not quite dead after two hours and a half.

Five minutes after taking out the heart of another frog, I injected a solution of opium into its stomach and guts. In less than half an hour it seemed to be quite dead, for neither pricking nor teasing its muscles produced any contraction in them, or any motion in the members to which they belonged!" —Physical Essays, 11-282.

Fontana repeated and contrasted this experiment in the following manner:— "I made twelve frogs swallow each about twenty drops of the aqueous solution of opium, and instantly separated the heart from the thorax. I opened the thorax in twelve others, but did not remove the heart: all of these, as well as the others, had previously swallowed opium. I noted the time of its action on all the twenty-four, and found that the effects of the opium discovered themselves much sooner in the frogs, the heart of which remained in the thorax, than in those from which I had removed it. The difference in time was more than one half."

The above experiment of Whytt's, I own, puzzled me for a long time, as it apparently contradicted what was otherwise so completely established. But I imagine that the difficulty may be got over thus. From the observations of Dr. Wilson Philip and others, and as was instanced in my own experiment detailed in the previous paper, the movement of the blood through the capillaries, from the arteries to the veins, continues for some minutes after the removal of the heart. By imbibition some of the poison would probably find its way into the aorta, and thence to the capillaries of the limbs. By imbibition also the poison would come into direct contact with the internal organs, and possibly with the limbs. At all events, Fontana's repetition of, and contrast to, this very interesting experiment, shew that the poison acts much more speedily when the heart is not removed, and the circulation is entire.

3. The absorption of narcotic poisons into the circulation through the skin, so conclusively proved by the above experiments, is necessarily much less rapid than the absorption from the stomach and intestines into the circulation.

Pannizza, quoted by Matteucci (sur les Phenomènes Physiques des Corps Vivants, p. 76), injected a small portion of strong hydrocyanic acid into a small portion of the small intestine of a horse; the blood which was immediately afterwards taken from the vein returning from the intestine, was already charged with hydrocyanic acid.

Solutions of most of the organic salts, and several of the inorganic salts, have been detected in the urine some time after being received into the stomach. Dr. Percy detected alcohol in the blood and urine after the injection of that fluid into the stomach. Monro says, "I applied camphor to the hind legs of two frogs for an hour and a half, and then I cut off the hind legs and the whole of the skin; and on opening the abdomen, I distinctly perceived the smell of the camphor in it, and after infusing the bowels in spirits and in water, I plainly perceived its taste in those liquors." For the details of the chemical proofs, that inorganic salts and some organic salts have been discovered in the urine after being received into the stomach, I refer to Simon's Chemistry, Dr. Day's translation, and to Dr. Taylor's work on Poisons.

From the physiological proofs detailed above, and from the chemical proofs referred to, it may be laid down as a received law, that narcotic poisons are received into the circulation, whether they are presented to the stomach and intestines, the skin, or the lungs, and that it is only through the medium of the circulation that they can act on the whole system.

4. I shall scarcely be premature if I insist here on the importance, in a therapeutical point of view, of recognizing habitually and practically that every poison is diffused through the whole circulating mass of the blood, so long as the blood is taking into itself fresh supplies of poison, whether from the stomach and intestines, the rectum, the skin or the lungs (as in the inhalation of ether and chloroform); and that the blood is constantly and necessarily eliminating from itself the poison diffused through it; and that every means should be resorted to, short of exhausting the vital energies of the patient, to hasten the elimination of the poison from the blood, through the usual channels, the kidneys, the skin, the liver and intestines, the salivary glands, and, when the poison is vaporisable (prussic acid, ether), the lungs.

This is not the place to enter into details on what may be termed the treatment by elimination, but a recognition of the importance of that branch of the treatment here is well, as it fixes the attention on the broad fact, that poisons are detectable by the chemist in the liver, the lungs, the brain, the heart, the kidneys, the blood itself, the bile, the urine, the serous fluid in the serous cavities, and that their removal during life from each and all of these places, in their aggregate from the whole system, may be materially aided by a rightly directed system of treatment.

Having gained a practical recognition of the fact, that the poison is admitted into the circulation, and carried by it through the whole frame, the ground is prepared for an inquiry into the effects of the poison on the circulation.

Action of opium on the capillaries, arteries, and veins.

5. In the experiment performed by myself, detailed in the former paper, and which was a modification of those of Allston and Monro, I found it of very great advantage to have the animal so arranged on Mr. Goadby's frog holder, that I could withdraw the test tube containing the solution of opium, or that holding water, from either of the legs respectively immersed in those fluids, and examine the progress and changes in the circulating currents, without in the least degree disturbing the creature, and so modifying the flow of the blood.

The first change observed was manifestly a dilatation of the capillaries: those capillaries which were previously so small that the corpuscles could only press slowly through in single file, each thinned, lengthened, and bending in the narrow tube, were now so much enlarged, that the corpuscles moved quickly through them; and the blood circulated through many capillaries previously too small to admit corpuscles. The opium was in contact with, and impregnated the texture of the capillaries, and the evident effect was a yielding of their walls, and the necessary result the enlargement of the area of the capillaries. While the blood in the capillaries moved more quickly and extensively, that both in the arteries and veins moved manifestly more slowly.

In the progress of the experiment, the capillaries became much farther distended, their enlarged walls yielding to the *vis a tergo* from the heart; the quantity of blood in them was much increased, several corpuscles moving side by side in capillaries that were previously empty; and the motion of the blood, both in the arteries, capillaries, and veins, was very materially diminished.

The cause of the diminished motion in the arteries and the distended capillaries, is rendered clear by an experiment of Dr. J. C. B. Williams, which proves that "flaccidity, and increased length and size of a tube, afford impediments to the passage of liquid through it." Dr. Williams attached a tube with two arms to a syringe; to one arm was fitted a brass tube two feet long, having several right angles in its course; to the other arm was fitted a portion of rabbits' intestine, four feet long, and of calibre (when distended with water) double that of the brass tube. The tubes were both filled by successive strokes of the piston; and when they both began to discharge, the quantity discharged from the small brass tube was from two to five times the quantity from the larger but membranous tube.

The experiment proves, that the increased tortuosity, and number of vessels in a congested part, the greater mass of their contents, and the atonic flaccidity of their coats, do truly form additional obstacles to the passage of blood through them. (Principles of Medicine, page 144).

This experiment explains perfectly certain of the successive phenomena observed in the circulation of the foot of the frog which was immersed in a solution of opium. When the coats of the finest capillaries became flaccid, they admitted corpuscles freely, although, under exactly the same pressure, many of them admitted none before. As the capillaries increased in size, and their coats in flaccidity, the increased mass of corpuscles in them, having still only the original amount of pressure from behind, moved forward much more slowly, a great portion of their moving force being expended in expanding the yielding walls. The arteries, as well as the veins, partook of the diminished motion: the former, because the blood in them had to push before it a greatly increased mass of corpuscles; the latter received less blood from the swollen capillaries, because a great part of the blood which they received was detained in them, and because less blood entered them from the arteries. The phenomena are in part illustrated by the rapidity with which soldiers in single file can pass through a narrow doorway, which, on the other hand, becomes almost blocked up by the striving pressure of a disorderly crowd.

It was very interesting to remark, during the progress of the experiment, that the circulation in the capillaries of the limb in water, which was at first unchanged, became gradually affected precisely in the same manner with the circulation of the limb immersed in opium. The changes were exactly the same in character, but they were at any given time less in amount, even to the end of the experiment.

This change in the circulation of the limb in water, was manifestly due to the opium, which, having found its way through the circulation, over from the left limb to the right, produced on that limb the same characteristic effects. The opium acted on the capillaries of the left or medicated limb, to use Fontana's expression, from without, while it acted on those of the opposite limb from within, their walls being bathed with the blood holding in it the opium in solution.

6. From this observation, we learn that opium causes congestion in all the systemic capillaries; and we may infer with certainty that the same effects extend to the pulmonic capillaries, in which the resistance to the circulation is probably greater than it is in the systemic capillaries. There is one interesting, and, in a therapeutic point of view, important symptom in poisoning by opium, which is referable to the congestion induced by it in the systemic capillaries, and that is, profuse perspiration, which usually breaks out over the whole surface of persons under the poisonous influence of opium. Neither morphia nor meconic acid have as yet been detected in the perspiration; but there can be no doubt that the perspiration is one of the channels by which the poison is eliminated from the system. I am, indeed, convinced, both from the consideration of the matter, and from experience, that it is of very great importance to promote by external warmth copious perspiration in cases of poisoning by opium. I need scarcely say, that this must not interfere with other steps in the treatment, and must not be pushed so far as to exhaust the system; and that the perspiration must not be allowed to remain on the surface, so as to chill it by evaporation.

Opium is not the only narcotic poison that produces congestion in the capillaries; indeed, I feel assured nearly all, perhaps all, the narcotic poisons have the same effect, though the effects are doubtless somewhat modified in each instance. It would form an interesting and valuable series of experiments to observe the effect of each of the narcotic poisons on the circulation in the web of the frog's foot, adopting in each the plan employed in the experiment detailed above.

Monro, in fact, adopted this plan with alcohol and with camphor; Dr. Wilson Philip with tobacco (I have not seen the details of his experiments); and Mr. Wharton Jones with carbonic acid gas, directing a stream of it on the web of the frog's foot: in all these instances (I cannot speak with certainty as to Dr. Wilson Philip's) the circulation was retarded and checked by the action of the poison.

The experiments of Mr. Nunneley, of Leeds, show that the invariable action of prussic acid is to cause congestion of the capillaries of the surface to which it is applied; and Professor Simpson has observed the same with regard to chloroform. The invariable effect of chloroform and ether, when it has penetrated from the lungs into the systemic capillaries, is at first to produce active congestion of those capillaries, as may be always witnessed on the conjunctiva.

Dr. Blake has made some interesting experiments, which exhibit, by a different mode of inquiry, the resistance to the circulation in the systemic capillaries. He observed by the hæmodynamometer that in animals poisoned by injecting tobacco, digitalis, and euphorbium into their blood, that the pressure on the hæmodynamometer is about doubled: this increase in pressure appears to be due to the resistance to the circulation in the capillaries.

In addition to the narcotic poisons just instanced, the following showed their effect in increasing the volume of the blood in the capillaries, and obstructing the capillary circulation by certain symptoms during life:—

Belladonna—in many of the recorded cases the face, and in some the whole surface, was rendered red.

Stramonium—the face was reddened in the majority of cases.

Hyoscyamus, I believe, has the same effect, from its general analogy to the action of belladonna, but I cannot meet with any note of such a symptom in my analysis of cases poisoned by it.

In one or more instances the following symptoms were excited by the following poisons:—

Cicuta virosa .	the face was bloated.
Œnanthe crocata	the face was bloated and livid.
Aconite . . .	the face was swollen.
Strychnos . .	the face was swollen.
A poisonous fungus	the face was swollen.

It may be considered, then, that the following narcotic poisons cause congestion in the capillaries:—opium, alcohol, ether, chloroform, carbonic acid gas, prussic acid, tobacco, digitalis, belladonna, stramonium (hyosciamus), cicuta virosa, œnanthe crocata, aconite, and strychnos.

8. In asphyxia there is congestion and obstruction in the pulmonic, and also in the systemic capillaries. This congestion is of the same character, alike, indeed, in its essential phenomena, with that produced by opium and the narcotic poisons; and in Mr. Wharton Jones' experiment, in which the capillary circulation in the web of a frog's foot was retarded or even checked by directing on it a stream of carbonic acid gas, it may be said that local asphyxia was produced.

It has long been understood that in asphyxia the pulmonic capillaries are obstructed, but Bichat was, I believe, the first to point out the obstruction in the systemic capillaries as an essential feature in the chain of morbid changes, instancing in support of this view the fulness and livid colour of divers parts, such as the face, tongue, and lips, and also putting it partially to the test of experiment by exposing the mesentery in the living animal during asphyxia.

Dr. Reid found that in asphyxia, there was increased distension in the arterial system, as indicated by the hæmodynamometer, evidently due to the resistance to the circulation in the systemic capillaries. Mr. Erichsen has observed under the microscope the resistance to the circulation in the capillaries during asphyxia. I repeated his experiment, and found where the air was shut off from the lungs by a stop tap in the trachea, that the circulation in the arteries and veins, which was previously quick, became gradually slow, and that the flow of blood through the capillaries was at first increased and then obstructed: on again permitting respiration, the circulation speedily quickened.

In asphyxia it appears that the obstruction is, in part at least, due to the increased size and adhesiveness to each other of the red corpuscles; those being the changes effected by carbonic acid on those corpuscles, according to that accurate observer, Mr. Gulliver. Besides this, the tonicity of the capillaries is doubtless diminished, and their relaxation consequently increased, by the continued presence of unoxygenated blood. May we not say, and say truly, that asphyxia is, in part at least, the action on the capillaries of a narcotic poison diffused through the blood?

9. The phenomena presented by the circulation in the capillaries in congestion and inflammation are very similar to those in narcotic poisoning and asphyxia. For interesting details on this subject, I refer to Dr. C. J. B. Williams' Principles of Medicine.

[To be continued.]

CASE OF POISONING BY STRYCHNINE—STRYCHNINE MISTAKEN FOR SALICINE.

A VERDICT of manslaughter has been returned by a coroner's jury against a Mr. Jones, druggist, of Romsey, under the following circumstances. On the 30th October, he was required to prepare for a lady a tonic mixture, into the composition of which salicine entered. Owing to some unfortunate mistake, *nine grains* of strychnine were used instead of salicine. A portion of the mixture was taken by the patient at 7 o'clock in the morning, and it is stated that she became suddenly ill, was seized with convulsions, and died (in less than two hours) before medical assistance could be procured. On inspection, the body is reported to have been found perfectly healthy, and no strychnine was discovered, although this poison was detected in the mixture. The quantity taken is not mentioned.

The report of this singular case, which has appeared in the daily journals, is, as usual, very imperfect. The medical gentleman who was called in, would confer a benefit on science by sending an accurate account of the facts to one of the medical journals.

ASSISTANT-SURGEON TO MIDDLESEX HOSPITAL.

MR. MITCHELL HENRY was yesterday, (the 9th), elected to the above office by a considerable majority.

MEDICAL GAZETTE.

FRIDAY, NOVEMBER 10, 1848.

THE Quarterly Return of the Registrar-General is brought down to September 30. It contains, therefore, no information respecting the prevalence and fatality of Asiatic cholera in the metropolis and other parts of the country. Nevertheless, the information furnished by the return is of interest, as it enables us to review our sanitary position immediately before the outbreak of this disease. Our readers are probably aware that the return is made up from 117 districts, of which 36 are in the metropolis, and the remaining 81 comprise, with some agricultural districts, the principal towns and cities of England. The population, in 1841, was 6,662,958; hence the results may be taken as fairly representing the sanitary condition of England and Wales.

"The mortality in the quarter was below the average. Only 43,445 deaths were registered; which is less, by 6,034, than the 49,479 deaths registered in the corresponding quarter of 1847, and 7960 less than 51,405, the number registered in the September quarter of 1846. The mortality of the country, it should be recollected, was low in the three years, 1843, 1844, 1845, and in the first quarter of 1846: a slight increase took place in the spring quarter of 1846; in the summer a great mortality broke out, and continued through the autumn, as well as the whole of the year 1847, until influenza raged epidemically at the close of the year 1847, and was then, and in the winter of 1848, fatal to thousands. A remarkable improvement was apparent in the spring of the year 1848, and was still more obvious in the summer quarter. While the deaths in the summers of 1846, 1847, were 8,660 and 5,986 *above*, the deaths in the summer of 1848 were 809 *below*, the corrected average."

Taking the four quarters of 1846-7, and the three quarters of 1848, the number of registered deaths will be as follows :—

Quarters ending	1846.	1847.	1848.
March .	43,850	56,105	57,710
June . .	43,734	51,585	46,552
September	51,405	49,479	43,445
December	53,093	57,925	. . . .
Total .	192,082	215,094	. . . .

The returns show that in all quarters, excepting London, there has been a great improvement in the public health. Thus, we are informed—

"The pressure of mortality has slightly increased in London, though it has abated in the country. While the deaths of the four summer quarters, 1845 - 8, in the country districts were 25,152, 38,804, 36,292, and 29,942, the deaths in London were 10,987, 12,601, 13,187, and 13,503. Influenza, it will be recollected, was much more fatal in London than in the country. The increased mortality of London is principally owing to the deaths from diseases of the zymotic class, increasing in the four summers, 1845—8, from 2,437 to 5,162. Scarlatina has been more fatal in the last than in any previous summer quarter since the new tables commenced. It destroyed 1,560 lives in 13 weeks, or 1,079 more than the average. The epidemic presented this singularity, that the deaths in the summer quarters 1841—4, were 193, 392, 548, 1,020; and again, 194, 208, 316, 1,560, in the summer quarters 1845—8; which justifies the hope that the mortality from this disease next year will not be considerable. Small-pox, notwithstanding the facilities for vaccination, was fatal to 435 persons: children chiefly who had never been vaccinated. Typhus destroyed 882 lives in London; the epidemic has prevailed since 1846, and is but slowly declining. Consumption, the enemy of mature life, carried off 1,534 victims. The fatality of this and of other diseases of the tubercular class remains almost invariable, allowing for differences of nomenclature; the deaths in the eight various summers of 1841—8, were 2,400, 2,511, 2,428, 2,275, 2,199, 2,659, 2,370, 2,221. Dysentery was rather more fatal than in previous years. Every summer there have been many deaths from diarrhœa: in the summers of 1846-7-8, diarrhœa was epidemic, and fatal to 1,549, 1,196, and 1,048 lives; cholera was fatal in the same season to 197, 98, and 153 lives. The mortality from these diseases for the last 9 years is shown in the annexed tables:—

Deaths from Diarrhœa in each of the Four Quarters of the Years 1840—48.

Quarters ending.	March.	June.	Sept.	Dec.
1840	57	62	279	62
1841	68	65	228	112
1842	81	63	489	87
1843	69	50	455	268
1844	79	83	414	129
1845	109	84	449	199
1846	119	153	1549	331
1847	178	202	1196	400
1848	244	239	1048	—

Deaths from Cholera in each of the Four Quarters of the Years 1840—48.

Quarters ending.	March.	June.	Sept.	Dec.
1840	3	4	53	6
1841	1	1	23	3
1842	–	7	106	13
1843	6	8	60	14
1844	4	9	47	5
1845	4	2	26	11
1846	7	9	197	15
1847	3	4	98	12
1848	9	17	153	—

"Cases of cholera and diarrhœa, as it will be seen by these tables, have been every year registered in London. Both these diseases were fatal to adults between the ages 15—60, and to old people[*]; but the great majority of the cases occurred in children. In the 13 weeks of the present year ending September 30th, the deaths of 90 children under 15, 37 men and women of the age of 15—60, ahd 30 of the age of 60 and upwards, were referred to cholera. The duration of the attack in adults varied from 16 hours to several days."

These are the principal medical facts with which this table makes us acquainted. At the date of the return there was no trace of what is termed epidemic cholera in England. The next quarterly table will, no doubt, contain a full history of the reappearance of this malignant disease among us.

It has been a long agitated question whether insurance offices or the party whose life it is proposed to insure, should remunerate the medical gentleman who was called upon to give a confidential history of his patient's health and habits. Every one admitted that the medical referee ought to receive a fee for his opinion; but the two parties most interested in the result, declined paying it. Each became a repudiator, and either the opinion was not given, or it was used and not paid for. Medical practitioners have latterly taken the matter into their own hands, and we have heard of several instances where, with a proper degree of independence, the schedule of inquiries was returned to the Office, as it was unaccompanied by a fee. This is the right way of dealing with the subject, because a medical man has other matters to occupy his attention than those which refer to the equitable adjustment of pecuniary differences between insurers and insured. The most respectable Offices, we are glad to perceive, are beginning to view the matter in its true light, and the subjoined circular, which has been forwarded to us, shews that medical men are not henceforth to incur trouble and responsibility without payment.

Westminster and General
Life Assurance Association,
27, King Street, Covent Garden,
24th October, 1848.

SIR,—I am instructed to inform you, that the directors of this association having taken into consideration the trouble and responsibility incurred by the medical profession in furnishing to Life Assurance Companies their opinion as to the eligibility of the lives of their patients for assurance, have decided upon allowing a fee of £1. 1s. to every medical referee who shall give a certificate in reply to an application from the office of this association.

I remain, sir,
Your most obedient servant,
WM. BROWNE,
Actuary.

We shall take care from time to time to publish the names of all the Offices which adopt this fair course of proceeding. When five or six respectable Insurance Offices admit the propriety of payment under the circumstances, the recusant companies will soon be compelled to give up an illiberal opposition to claims which are based on reason and justice.

THE General Board of Health is decidedly in an unfortunate predicament. Its notifications please no one, either in the profession or out of it. They possess the demerits of being lengthy, inconsistent, and contradictory. At one time they lay down a sort of national dietary, which ruins market-gardeners, and various trades. In this they are set right by the Royal College of Physicians of London. On another occasion they enter most unnecessarily into the question of contagion, and promulgate on this subject dogmatical views which are not only in opposition to the experience and observation of many medical practitioners, but are liable to give rise to great practical mischief. We had intended to take up this part of the case in extenso, but a correspondent, to whose letter we this week willingly give insertion,* has anticipated us; and he has so ably analysed the doctrines of the non-medical Board, that we shall for the present merely refer our readers to his letter. Then, with respect to treatment, various sorts of astringents, including the use of opiate preparations, in order to remove "looseness of the bowels," were specially recommended to the public; but on this general mode of prescribing, the Cholera Committee of the Royal College of Physicians wisely remark, that *they* are unable to recommend any uniform plan of treatment to be adopted in such cases. Looseness of the bowels may arise from various causes of which a medical man can alone judge; and hence "it is safer that persons thus affected, should apply at once for medical assistance, than that they should indiscriminately use of their own accord, or on the suggestion of unprofessional persons, powerful medicines in large and frequently-repeated doses." This is the language of common sense, and it would have been at once adopted by any properly constituted Board of Health.

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* Dr. Reid, page 813.

From a notification, which was published in the GAZETTE of Friday last, it appears that additional labour is to be thrown on the medical officers of Unions, without an adequate additional remuneration. The General Board of Health have in this document issued certain directions and regulations, and have made them applicable to 621 Unions. The following clauses concern the duties of the medical officers:—

"10. And we authorize and require such guardians to cause the medical officers employed by them, *or specially appointed for the purpose*, to visit the places, of which a list shall be made out as aforesaid, and all such neighbouring and other places within such union or parish, as shall appear to such medical officers (from being under like circumstances with the places included in such list or otherwise) to require visitation or examination.

"11. And each such medical officer shall, where it may be necessary, certify in writing to the Board of Guardians, and to the surveyors, trustees, or occupiers, or others required to execute these directions and regulations, all such places as are in a state dangerous to health, or need frequent and effectual cleansing by way of preservation against disease; and such dwelling-houses as are in a filthy and unwholesome condition, and all such nuisances and matters injurious to health as ought to be abated, cleansed, and removed under these regulations.

"12. And each such medical officer shall forthwith upon any case of cholera or of typhus or other epidemic, endemic, and contagious diseases becoming known to him within the parish, union, or district under his visitation, report the same to the Board of Guardians.

"13. And we do hereby authorize and direct the said guardians, *where it may appear needful*, to appoint such additional medical officers, and also to appoint such other officers as may be necessary to execute and superintend the execution of these regulations, and to publish and circulate by printed handbills, or other means, notices of the provisions of the said act for the prevention of nuisances, and of our regulations and instructions, or of such part of any of them, as it may appear desirable to make publicly known."

"And where it shall be certified to the guardians by their medical officer or officers, or where it shall otherwise sufficiently appear to such guardians, that extraordinary medical aid is required for persons attacked or threatened by cholera, or epidemic, endemic, or contagious disease, *we authorize and require such guardians to provide sufficient medical aid*, and, in suitable places, such medicines as may be required within their respective unions for necessitous persons attacked by cholera or by premonitory symptoms, and to make arrangements for the distribution of notices, stating the places where aid and medicines shall have been provided."

It will be perceived that the order for the appointment of additional medical officers is drawn up in so loose a form that it easily admits of evasion. The terms "*where it may appear needful*," which we have italicised, are too vague, and offer, according to Clause 10, a great temptation to Boards of

Guardians to procure as much additional work from "the medical officers employed by them" as they possibly can, without adding one farthing to their expenses. The invasion of a disease which is of sufficient importance to draw forth such stringent orders respecting the drainage and ventilation of houses, and the provision of medicines for the sick at the charge of ratepayers, would surely suffice to justify the compulsory appointment of additional medical officers. The rule should have been, that so soon as cholera appeared in a district, either another officer should be appointed to superintend specially the progress of the disease; or, where the attendance required by the sick poor furnishes no impediment, this superintendence should be assigned to the Union medical officer, with a proportionate increase of salary. The only reference to additional payment which we have met with is in a previous order of the General Board, dated October 31 :—

"It appears to the General Board of Health to be absolutely necessary, in the present emergency, *to concentrate responsibility on the medical officers, and to entrust them with discretionary powers,* because the rapidity of the course of cholera will not allow them to wait for directions from the guardians at their weekly meetings; and seeing the many and arduous duties that devolve upon the medical officers, the General Board of Health cannot but express a hope that the remuneration of these officers will be more proportionate to the value of the services required than it was on the former occasion."

We think that there should have been something more than a recommendation. No Board of Guardians can be met except by a positive order as to payment. This has been long understood practically by those who have had any dealings with them; but the members of the Board of Health do not appear to be acquainted with it even theoretically. It is unjust to advise the concentration of responsibility and the accumulation of professional labour on the medical officers, and to make the remuneration for extra-services an open question with men who have hitherto manifested the most painstaking ingenuity to evade a fair and liberal scale of payment for ordinary services.*

The cases of cholera during the past week have not been numerous in comparison to the population; but they have been marked with that great fatality which appears to be the universal character of this disease in its advanced stage. On Thursday (Nov. 2nd) there were fifteen cases in the metropolitan districts, of which twelve were fatal; and on Friday (Nov. 3rd) there were ten new cases, of which six proved fatal. A more formal report was issued on Tuesday last, from which we learn, that there were on the 6th inst., in London and its vicinity, twenty cases, and twelve deaths; on the 7th, seventeen cases, and ten deaths; and on the 8th, nine cases and three deaths. The disease appears to make no progress in the provinces†; but Scotland is at present severely visited. The new cases, which are reported in Edinburgh and its vicinity, amount daily to an average of from fifty to sixty; and about one half of these prove fatal. Up to the present date (Nov. 8th) there have been in and around Edinburgh 468 cases, of which no less than 243 have terminated fatally.

The weekly return of the Registrar-General, notwithstanding the great prevalence of zymotic diseases, still shows a favourable result on the total mortality. The deaths were 39 *below* the weekly autumnal average. If zymotic diseases have increased the deaths from 270 (aut. av.) to 423, the deaths from pulmonary diseases are reduced from 222 (aut. av.) to 125.

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* It is reported that some remuneration will be granted for these extra-services.

† On the 8th inst. there were reported 9 cases and 8 deaths, including some previously attacked.

Scarlet fever proved fatal in 135 cases, of which 133 were at the infantile period; and *Typhus fever*, in 77 cases, to an autumnal average of 50. The deaths from *Diarrhœa* and *Cholera* were as follows:—

	Under 15 yrs.	15 to 60	Ab. 60
Diarrhœa	21	9	8 = 38
Cholera .	24	36	5 = 65
	45	45	13

From this statement it will be seen that, considering these few cases have occurred among two millions of persons, there is at present nothing alarming in the progress of the epidemic. The disease owes its terrors among ourselves, not to the numbers attacked, but to the large proportion of cases in which it proves fatal.

THE TREASURERSHIP OF GUY'S HOSPITAL.

On Wednesday, the 8th inst., at the annual meeting of the General Court of Governors of this Hospital, Bonamy Dobree, Esq. was elected Treasurer in the room of Benjamin Harrison, Esq., who has resigned that office, after having held it for the long period of fifty-one years. In the Report presented to Parliament in June, 1837, by the Commissioners officially appointed to investigate the state of this charitable institution, it is observed, in reference to Mr. Harrison, "that his whole time, talent, and energies, have for above forty years been devoted to the service of the hospital; and that the entire course of his administration has been marked by zeal the most active and efficient, as well as by the most scrupulous and disinterested integrity. Not only have his services been gratuitous, but his connection with the hospital (in the absence of a fund for the assistance of distressed patients on their discharge, the want of which seems to be seriously felt) has proved to him a constant source of expense, numberless destitute persons having been relieved by his private benevolence." Notwithstanding the retirement of Mr. Harrison, we understand that the institution will still receive the benefit of his services as a governor, rendered valuable by his long experience.

Reviews.

Prison Discipline, and the advantages of the Separate System of Imprisonment, with a detailed account of the Discipline now pursued in the new County Gaol at Reading. By the Rev. J. Field, M.A., Chaplain. 2 vols. pp. 900. London: Longman and Co. Reading: Welch. 1848.

The author's object in the publication of this work is to call attention to the great importance of the separate confinement of prisoners. Formerly, all prisoners were associated together indiscriminately. Under such an arrangement, as may be conceived, the most atrocious malefactor was the hero of the society, and a school was formed for the study of vice, in which the scholars made rapid progress. The poacher, imprisoned for his first and perhaps trivial offence, left the prison more accomplished in crime—in short, the inmates of our gaols were not reformed, but rendered greater pests to society.

So entirely without discipline were prisons, that at that period the office of gaoler was often held by women, and the gaolers had the privilege of selling beer and spirits to the prisoners, which, indeed, constituted the chief emoluments of office. The time of the prisoners was wholly unoccupied, and the prison was the perpetual scene of gambling, riot, blasphemy, and debauchery.

To remedy some of these gross abuses, what is called the *silent system* was adopted. This consists in strictly forbidding the slightest conversation among the prisoners on pain of punishment for each violation of the rule. Labour, in the shape of the treadwheel, forms part of the penalty under this system.

"It has, however, been found by experience to be utterly impossible to enforce silence among prisoners; for the reason, that it is in opposition to one of the strongest principles of our nature; it is in fact an impracticable scheme of punishment. The certain effect of the silent system is to encourage hypocrisy, and to teach fraud of the same nature as those evils for which the criminals are imprisoned. Thus, during their confinement, the prison becomes a school, not for teaching obedience to the *law, but for suggesting plans for evading and violating it.*" (p. 31.)

The silent system, therefore, while on the one hand it fails to prevent the evils of association, on the other is not without some injustice; for, criminals who were sentenced to suffer but one punishment—viz. imprisonment, are in reality condemned to a great many punishments for sinning against the rule of silence; while to observe it, is in reality to act against the law of nature. To demonstrate how fruitless it is to attempt to stop the evils of communication by this plan, our author, among numerous proofs, quotes the evidence of Mr. Baron Alderson before the House of Lords, (1847) where he says, "I have known an instance in which a regular plan for a robbery, that took effect, and was tried before me, was laid in one of what is called our *best regulated gaols, and on the treadmill.* The instrument there was a boy, and the principals were adult thieves."

Mr. Field insists, too, upon the fact that hard labour is not conducive to reformation. In the most robust he declares that it only produces mental irritation and feelings of revenge; while the less strong sometimes suffer so severely as to be unable to walk from the prison at the expiration of their period of confinement. A serious obstacle to the reformation of those who are thus imprisoned, also exists in the recognition of them by their comrades in gaol, who either lure them away from industrious pursuits, or, if repulsed, drive them from their position by proclaiming their former disgrace.

The confinement of each prisoner in a separate cell, however, overcomes all these objections, and, as at present conducted, Mr. Field believes, and endeavours to shew, that it is attended with the best results. The prison is dreaded, reformation advances, and recommitments are greatly reduced in number. It may be here remarked, that what is called the *separate system* is not to be confounded with solitary confinement—a measure which, as practised in America, is found to be fraught with evils from which this is perfectly free. The prisoner daily receives visits from the governor, the chaplain, the medical attendant, a trades-teacher, and schoolmaster: he is placed in a well-ventilated and sufficiently-warmed apartment, and he is fed and exercised with reference to the maintenance of health. To bring about such objects as these, the labours of those great philanthropists, Howard, Wilberforce, and Buxton, who paved the way, have not been exerted in vain. Every possible device is resorted to which can tend to accomplish reformation. The feeling of shame is attempted to be awakened and kept alive; habits of industry are cultivated, and every agreeable, religious, and moral instruction is imparted.

The frightful evil of sending forth a felon population to our penal colonies has become so overwhelming as to render its abolition absolutely necessary; and the subject of prison discipline, and the disposal of our malefactors, is forced on the government as a matter which admits of no delay. It has been suggested, by the Home Secretary, that this separate system should form a probationary portion of the sentence of transportation, at the termination of which the convict is to be banished from this country, as an emigrant, free to commence a new career in the country to which he is permitted to go; the expense of his passage thither being paid out of the earnings of his own industry. Experience has already shewn, as far as the scheme has been tried, that these *exiles*, as they are called, quickly find employment at the places where they have been invited by the local authorities, in communications to our government. Mr. Field's work abounds with facts which bear out the importance and value of the scheme which is now in operation in many of our prisons. It is written without much regard to arrangement, but it is the work of one who has had great experience in the subject on which he writes, and it contains much valuable information in reference to prison discipline. To the medical profession it will be found of interest, in reference to the hygiene of prisons: but the facts are not numerous as regards this part of the subject. It is, however, shewn that insanity (fears respecting which formed an argument against the separate system) is not more common among prisoners than in the selected household troops; and that precautions with reference to dusty trades have greatly reduced the mortality from phthisis.

The author, in his chapter on the causes of crime, alleges that to obtain the prison dietary (which is better than the homes of the honest and industrious poor afford), is the direct inducement for its commission in some instances, and his facts bear out the assertion. To remedy this, and as a safeguard against gluttony, he suggests that the provisions should be of coarser quality, and that the quantity should be regulated by the medical officer (as in the matter of flogging in the army, we suppose), on the principle of how much penance can be borne. We think it unwise, however, to risk the chance of making prisons schools for the study of dyspepsia, or in any way reducing the very satisfactory sanitary condition of these establishments. It will be safer to trust to the judicious experiments of the worthy chaplain on the consciences of criminals for the repression of crime; and we shall be glad to find that an office like that which he holds, will be always allotted to men who possess the same amount of ability and enthusiasm in so philanthropic a cause.

An Introduction to Practical Chemistry, including Analysis. By JOHN E. BOWMAN, Demonstrator of Chemistry in King's College. Small 8vo. pp. 280. London: Churchill. 1848.

THIS is one of a class of books, now becoming numerous, which is intended to assist the medical student in mastering the rudiments of Practical Chemistry. The experiments are, on the whole, well devised,—the illustrations are numerous, and the work is neatly got up. While there is nothing new in the volume, we must do the author the justice to say that he has treated the subject in a very satisfactory manner. Many useful tables are appended to the work.

Register of Cases of Cholera professionally attended. 8vo. London: Smith, 49, Long Acre. 1848.

THIS will be found a useful volume to those who are disposed to keep a record of the experience which they are likely to acquire by the reappearance of Asiatic Cholera in this country. So little is really known of this disease, that every medical practitioner called to attend cases of cholera, will confer a benefit on science by registering daily the results of his observations, and the effect of various modes of treatment.

The volume before us, which is of moderate size, and adapted for the pocket, consists of a series of ruled pages, with columns referring to the most important facts which require registration. We recommend it to the notice of medical officers of unions, and of all others who may be called upon to treat cases of cholera.

Proceedings of Societies.

SOUTH LONDON MEDICAL SOCIETY.

October 28, 1848.

JOHN HILTON, ESQ., F.R.C.S., President, in the Chair.

ON the PRESIDENT inquiring if the members present had met with any cases of Cholera in their own immediate neighbourhood—

Dr. SILVESTER replied that he had seen one case at Clapham: the symptoms were in every respect those of Asiatic cholera, and that nine hours only elapsed between the attack and the fatal termination.

Mr. OWEN also observed he had met with two cases in the same house, and that one died in three days, and the other in sixteen hours.

Mr. WATERWORTH inquired if there were no premonitory symptoms in the cases presenting themselves to the different practitioners, as he could scarcely believe in cholera commencing and ending fatally in a few hours. In all his cases a premonitory symptom, as diarrhoea, existed, but was forgotten or passed over as not worth mentioning. At the present time he believed there was a great tendency to diarrhoea, and differing from the common form in the great amount of mental depression, as in almost all other diseases now prevalent, but that the symptom of diarrhoea, if not neglected, was easily under control.

Dr. SILVESTER observed, there was slight diarrhoea for a few days in the case he had related. The patient had, moreover, been exposed to the effluvium of a drain; but another, who was more so, escaped any disease.

On the PRESIDENT inquiring of Mr. Waterworth what were the remedies he employed in the early stages,—

Mr. **Waterworth** said, the remedies he found most successful were small doses of calomel with opium and rhubarb, followed by Pulv. Ipecac. Comp. every three hours, with rigid diet. Under this treatment he found the disease controllable, but tedious, requiring care and watching, getting well for a few days, and then returning from the slightest cause.

Mr. **Evans** believed there must be some peculiar atmospheric influence which produced such depression of the spirits and of the system in general, in the persons who are now ill, and inquired of the members if they had met with any cases where, from the aspect of the patient, they would be led to expect there had been severe purging, but where, on inquiry, such had not occurred, although the symptoms were those of a feeling as if they should be violently purged, together with a furred tongue and great debility? He also did not believe in the circumstance alluded to, that a previous diarrhœa always existed, as he remembered many instances, when the cholera was last in this country, of persons being attacked when in perfect health, and dying the same day; and in two cases he saw, the patients were thrown into a complete state of collapse after only two copious evacuations.

Dr. **Lodge** said, nine cases had occurred at Peckham, and that four had died, the time elapsing between the attack and death being between four and twelve hours. In these cases there had been no purging previously to, and but little during the attack. For the relief of the cramps, chloroform was had recourse to, and in one case with the greatest benefit, the cramps subsiding and the blueness disappearing; but in the other patients its influence was only temporary.

Mr. **Wright** thought, in five cases out of six, diarrhœa was a promonitory symptom, which was frequently checked by a single opiate; but in some cases the patients were struck down suddenly as if poisoned; and, in answer to Mr. Robinson, said he had usually observed, on dissection, a papular eruption on the inner surface of the small intestines and cæcum; no bile in the intestines, but sometimes filled with a large quantity of serous fluid to the amount of a few gallons, and a loaded gall-bladder, although he was unable to find that its distension arose from any obliteration of the duct.

Mr. **Robinson** had not seen any cases during the latter part of the year, but in February last he saw a case where a lady died in his presence apparently from collapse: she was of intemperate habits, had diarrhœa, and vomited. Six weeks afterwards two other cases occurred, with rice-water vomiting, and the same kind of stools. They were treated with large doses of calomel (℈j.) and ammonia to begin with, and followed by 10 grs. 4tis horis. By this treatment the cramps ceased, and the secretions from the bowels became pitchy. In the cholera of 1832, the gall-bladder was seen, on dissection, enormously distended with bile; and he was consequently of opinion that there is some connection between spasm and distension of the gall bladder and the disease, but was incompetent to explain the phenomenon: he believed also that the use of opium was highly injurious.

Dr. **Gull** said, he had examined a mass of evidence placed at his disposal by Dr. Babington, and, from the various reports of the post-mortem appearances, it appears that the most frequent is the papular eruption before mentioned, and an enlargement of the glands of the small intestines, similar to that seen on the mucous membrane in the serous discharge of Bright's disease of the kidney. He thought also it was Foville who states this appearance is most evident in the third stage; also that there is a membranous inflammation in the cranium when the consecutive fever follows, and that the heart is empty, but the veins full.

Mr. **Waterworth** could not help observing that a most peculiar part of the disease was the fact of the patients so strongly denying the existence of any previous diarrhœa.

Dr. **Silvester** fully agreed with Mr. Waterworth, that there was a great dislike to acknowledge a diarrhœa, if the question was asked in such a manner as to give rise to the idea of the disease being cholera.

Dr. **Murphy** stated that he had used transfusion in 37 cases, and that in seven an immediate and perfect recovery took place; and, in answer to the President, said he made the fluid as nearly resemble the serum of the blood as possible; that it was transfused at the temperature of 98° Fah., and to the extent of four or five quarts, but that he would not employ it again, as he saw as many recover without its use.

Mr. **Wright** said transfusion had been tried in St. Peter's Hospital, Birmingham, to the quantity of a pint, but with no benefit.

Dr. **Gull** said his reading led him to think that most cases began with a diarrhœa of one or two to twenty-four hours' duration. In hospital practice there was no evidence of dysentery or erysipelas being more prevalent than usual, so that atmospheric influence was not considered there as an exciting cause. He inquired also if any gentleman had tried large doses of quinine, as he was aware it had been prescribed in small quantities.

Mr. **Waterworth** recollected a gentleman in Persia had recommended the use of large doses of quinine, because the cold stage of cholera presented so close a resemblance to ague; and, in alluding to the great diversity of opinion as to the treatment, mentioned the circumstance of two such opposite remedies as opium and croton oil being equally strongly advised by their advocates.

Mr. Wright believed that in India, as in England, the treatment found to be most successful was that of opium combined with stimulants, as the Liq. Ammon.; and he thought also that the use of croton oil was now quite exploded.

A few remarks were then made by Dr. Murphy on the cause of the cramps, when the Society adjourned.

In consequence of the subject of Cholera being introduced, Mr. H. K. Owen's case of "Laceration of the Liver" was postponed until the next meeting, Nov. 9th, 1848.

MEDICAL SOCIETY OF LONDON.

Monday, October 30, 1848.

Mr. Hancock, President.

Cholera.

Mr. Headland said, that if the cases in Peckham Asylum, alluded to at the last meeting of the Society, were really those of genuine cholera, it was remarkable that the disease had been confined to that locality entirely. He could hardly help expressing a doubt of the identity of the disease, which he considered not to be genuine cholera, but the result of the sulphuretted hydrogen.

Mr. Shearley mentioned some cases in which no kind of premonitory symptoms preceded the stage of collapse—he spoke of the epidemic of 1832.

Mr. Clarke believed that very few cases of cholera indeed had occurred in London. Every one acquainted with the disease, as it exhibited itself in 1832, must have been convinced that many of the cases recorded as malignant cholera, were not cases of that disease at all.

Dr. Chowne had seen much of the cholera of 1832. He should have doubted, if it were not for the respectable names connected with some of the reports, whether any cases of cholera maligna had really occurred. He went on to state that cases of English cholera, particularly in the fenny districts of Lincolnshire, occasionally presented symptoms which, to the uninitiated eye, might easily be mistaken for those of Asiatic cholera. So in the present epidemic, cases of English cholera of a severe form might be mistaken, even by good practitioners, for the Asiatic disease. The diseases, indeed, seemed to shade off into one another. He spoke of the influence of fear on the production of the disease, and of the disposition, in times of alarm, to aggravate all cases.

Dr. Waller thought we should treat cholera most successfully when guided in our practice by general principles. Cases often occurred without premonitory symptoms. He related a case which occurred in 1832, in which he was induced to inject a saline fluid into the veins. Death was not averted, but made more terrible. He regarded the English and Asiatic forms of cholera as perfectly distinct diseases.

Mr. Hooper had used saline injections in one case in 1832. The effect was most decided and marked. The collapsed state was immediately removed on three successive applications of the remedy, and though death was not averted, the proceeding gave him a favourable opinion of the plan of treatment. He regarded cholera as a disease of the blood. With respect to the present epidemic, he had seen some severe and rapidly fatal cases, but they were not the cholera of 1832, although he was ready to admit he had seen no cases of cholera so severe since the epidemic of that period. He did not believe it contagious, and illustrated this opinion by several facts bearing on the point.

Dr. Golding Bird said, that in Guy's Hospital, situated in the neighbourhood of the river, and much crowded places, not a single case of Asiatic cholera had presented itself. A man had been brought in dead from a vessel just arrived from the Baltic. We seemed, at present, puzzled as to the treatment of this disease, the very opposite modes being recommended. He must confess that he looked with some horror at the withdrawal of the quarantine, and could not help thinking positive facts showed the contagious character of cholera when favourable circumstances for infection presented themselves. Last year he had seen four cases of what was considered malignant cholera, but no official notice was taken of it. He remarked, as a somewhat curious fact, that of late, ozone, or peroxide of hydrogen, had been found in the atmosphere. Dr. Schönbein, he knew, had, at one time, regarded this agent as the principle of malaria; he knew not whether he had altered that opinion.

Mr. Middleton regarded calomel and opium as the mainstay in cholera. He believed the medical gentlemen at Peckham had seen too much of the disease in 1832, to be mistaken in the identity of the disease.

WESTMINSTER MEDICAL SOCIETY.

October 29, 1848.

J. Webster, M.D., F.R.S., President.

The adjourned discussion of this evening, though long and wearisome, may be summed up in a very few words. Dr. Searle spoke for thirty-five minutes; the result of his discursive oration was to convey to the Society that he had not the most remote conception that cholera was contagious; that it essentially consisted of a congestion of the vital organs; that it was caused by malaria, or electrical conditions of the atmosphere; and that it was to be cured by large doses of calomel, drinking plentifully of cold water, and "attending to the dictates of Nature."

Dr. King, in 1832, had found calomel in large doses, and drinking cold water *ad libitum*, a most successful plan of treatment.

Dr. Garrett had found large doses of calomel of no avail in India, as the patients, in the really bad cases, sunk before the calomel could act. To establish reaction as quickly as possible, was the most effectual mode of arresting the fatal termination. This was effected in many cases by strong stimulants. This plan had been found of avail in most cases in Syria: he read an extract of a letter on this point from a practitioner in Syria.

Mr. O'Connor made some judicious remarks on the treatment of the disease.

Mr. Wing had had some experience in the treatment of this disease; and the conclusion he had arrived at many years since was, that the disease essentially consisted of a "diverted action"—the function of one organ being preternaturally excited, at the expense of the functions of others. He illustrated this by reference to the arrested function of the kidney and liver, and the increased action of the stomach and bowels. This view of the pathology of this disease, which, as far as he knew, had never been broached, simplified our treatment. This showed that the primary object of the practitioner was the arrest of the bowel discharge, which not only interfered with the secretion of urine, but abstracted heat from the surface, and in truth was the immediate cause of the collapse. Of course, attention to the state of the surface was necessary.

Dr. Webster made some valuable statistical remarks, which shewed that the fatal cases of cholera, so called, had been much less during the six weeks just ended than they were in the corresponding period last year.

Mr. Hird having replied, the Society adjourned.

NEWCASTLE AND GATESHEAD PATHOLOGICAL SOCIETY.

October 9, 1848.

A new Society under this title has recently been formed in Newcastle-on-Tyne, and, as it does not interfere with any existing institution, we trust that the copious materials for the study of pathology furnished by that populous and important district, will henceforth be made available for the improvement of medical science. The first meeting was held on the 9th October last — Dr. Headlam, President, in the chair.

Case of Aortic Aneurism.

Sir John Fife exhibited and communicated the history of a case of aortic aneurism, which had perforated the sternum and formed a large subcutaneous tumor, burst externally. The patient, a strong, healthy man, aged 62, a pilot, 9 months before death first observed a small pulsating tumor on the *left* side of the sternum, between the cartilages of the third and fourth ribs: this gradually increased in size until it attained an extent of seven inches by four and a half; its long diameter corresponding to that of the sternum. On his admission into the Newcastle Infirmary, six weeks before death, the tumor, which occupied the whole of the superior portion of the left half of the sternum, was divided into lobes of nearly equal size: the lower lobe was firm, and the integuments covering it retained their natural appearance. The upper lobe was soft, and of a red colour, resembling an ordinary abscess: it extended an inch above the clavicle, distorting the left sterno-mastoid muscle. There was a powerful impulse on placing the hand upon it; and this impulse was perceptible even when the tumor was covered by the patient's dress. A loud bellows murmur was heard at the upper part of the tumor under the right clavicle, and also over the right carotid. There was no bruit with the heart's sound; the patient suffered from occasional fits of pain in the right chest.

About a week before death there was an oozing of blood from the upper part of the tumor; the cuticle was described as crackling at each pulsation. On the 30th of September, whilst in the act of defecating, the upper lobe burst, the blood spouting to a distance of two yards. On examination, the arch of the aorta was found greatly dilated; the aneurism arising from this dilated portion of the vessel immediately below the origin of the innominata. The aneurismal sac, whilst within the thorax, was firmly adherent to the costal cartilage of the *right* side and adjacent portion of the sternum, and had consequently perforated the sternum very obliquely from right to left, so as to project anteriorly on the left side of that bone, and even to cause the absorption of part of the contiguous costal cartilages. This is probably referable to, inasmuch as it corresponds with, the direction which the jet of arterial blood would assume on entering the aneurismal sac obliquely.

Aneurism of the Arch of the Aorta.

Dr. White communicated the particulars of another case of aneurism of the arch of the aorta, in which the tumor had pressed upon the trachea so as to give rise to some of the symptoms of chronic tracheitis, and to induce one gentleman who saw the case to regard the disease as an inflammatory affection of the large air tube. The patient, at the time of his admission into the Infirmary, had been unwell for two months; he complained of difficulty of swallowing, and of a sensation as if the food was obstructed in its passage. *There was no dyspnœa,* but he had occasional wheezing, not amounting to cough, with pains shooting through the upper and anterior part of the right chest. There was some dulness on percussion below the right sterno-clavicular articulation, with increased impulse of the heart in that direction; the heart's sounds being as distinctly audible there as over the precordial region. There was no bruit there, nor with the heart's action. A very slight dulness was perceptible above the spine of the right scapula near to the spinal column, and the heart's sounds were heard there. He had lived very freely.

About a month after his admission he was for the first time affected with dyspnœa; the cough continued, and had become more severe, occurring in paroxysms; the expectoration was copious, but consisted solely of mucus. It was now suggested that the constant short harassing cough might arise simply from tracheitis; and though retaining the belief that the disease was aneurismal, Dr. White consented to act upon this suggestion, on the ground that if the patient derived no permanent benefit from the change of treatment, he might perhaps obtain some temporary relief.

The ordinary treatment for chronic tracheitis—viz. mercury, leeches, and blisters, was accordingly pursued, though without any advantage; and on the 10th of August, nearly two months after admission, whilst coughing, he for the first time brought up a mouthful of blood of a florid colour. The hæmorrhage continued for a quarter of an hour, when he died.

On examination, an aneurism of the size of an orange, arising from the arch of the aorta opposite the origin of the brachiocephalic artery, was found to extend across the trachea, into which it had ultimately burst by a small aperture about the size of a crow's quill, situated half an inch above the bifurcation into the bronchi.

Diseased Arachnoid Membrane taken from the brain of a lunatic.

Mr. Furness, in exhibiting a diseased arachnoid membrane taken from the brain of a lunatic, related the particulars of the case. The patient, who had been a soldier, and whose insanity had supervened on excessive drinking, was admitted into an asylum three weeks after the commencement of the disease, at which time he was in a state of considerable excitement. At the end of a month he had passed into the opposite condition of extreme stupidity, from which, after the application of the actual cautery to the back of the neck, he so far recovered as to become civil, tranquil, and cleanly, but he continued in a state of dementia; and sixteen months after his admission, he, without any apparent cause, rapidly decayed both in mind and body, and died utterly unconscious.

His head, which was the only part examined, presented the following appearances:—The vessels were greatly gorged with blood; the dura mater was firmly adherent to the calvarium. The arachnoid was greatly diseased, being immensely thickened, so as closely to resemble the dura mater in bulk and firmness. Between the arachnoid and pia mater, a thin layer of purulent matter was deposited, as was also the case between the brain and pia mater. This latter membrane also appeared thickened, and its vessels unnaturally gorged with blood. The brain itself was healthy, but presented in its substance numerous vascular spots.

On the Nature and Treatment of Epidemic Cholera.

The Secretary (**Dr. Robinson**) read a short review of the opinions which have been held on the nature and treatment of epidemic cholera. Having briefly alluded to the old idea that the disease consists in disorder of the biliary secretion, the writer proceeded to show that cholera is not an affection of the hepatic system only, and that, as still stronger arguments oppose every theory which would locate the disease in any other particular organ, it must be regarded as a general or constitutional disease, and like all other diseases of that class, is in all probability seated in the blood.

That epidemic cholera does arise from the introduction into the body of a poison suspended in the atmosphere, is now generally believed; and in the absence of any positive information as to the specific nature and source of this noxious agent, it is perhaps more advantageous to regard cholera as induced by an extreme development, or peculiar modification of some one of the numerous and obscure group of morbific poisons, than to fall into the vulgar and dangerous custom of investing it with almost supernatural forms. With reference to those theories which ascribed cholera merely to an excess or deficiency of atmospheric electricity, or to the preponderance of a particular form of that agent, the writer, while admitting the possibility of certain electrical states favouring the propagation of this and other morbid poisons in the same manner as other physical conditions, such as heat and moisture, are known to operate under similar circumstances, considered this view as not only opposed to all previous experience of the effects of electricity upon the human body, but as peculiarly objectionable, from its affording another example of the very prevalent and irrational error of explaining all unknown natural phenomena by the *word* "electricity." The only other consideration connected with the nature of cholera to which the writer referred, was the relation existing between it and more familiar diseases. Some writers argue for the essential identity of cholera with common intermittent fever; and Dr. Bell, of Manchester, asserts that it is merely a form of ague, of which the type is quotidian; but his chief argument, drawn from a comparison of the successive stages of ague with those of cholera, seems very inadequate to the establishment of his position.

In the physical appearance of the blood drawn, malignant cholera closely resembles that described by Huxham and the old physicians as occurring in putrid fevers; and also that observed in the worst forms of exanthemata, where the eruption is not developed, but from the peculiar effects of the cholera poison, the analysis of the blood here shows a greater loss of serum than would be found in the other affections. A much more interesting and more practical question is the degree of connection existing between Asiatic or malignant, and English cholera. Are they the same disease, and is the difference merely one of intensity? The writer inclines to this opinion, thinking it possible for the disease generated in localities so favourable to its development in a virulent form, as the crowded and pestilential swamps of India, to assume an epidemic character, which is not noticed in that produced in this country. Without discussing the question of contagion, it appeared to him evident, that whether the disease be propagated by personal contact or not, the collection in one spot of a large number of cholera patients must add materially to the danger; in the one case, *i. e.* assuming it to be infectious, by increasing the power or intensity of the poison, as we find to be the case with typhus, &c., and in either case by disturbing and fatiguing the patient by removal at a time when delay may be death.

With respect to the treatment, the writer merely indicated its natural division into—1st, that of the premonitory stage; 2nd, that of the confirmed disease; 3rd, that of the malignant form of the disease; 4th, that of its sequelæ: and having urged the importance of not relying upon general specifics, but rather judiciously adopting the particular remedies employed to the peculiar form and degree of severity of each attack, he left the further consideration of the treatment to those present, who had possessed the advantage of practically studying the disease during its former visitation.

A long discussion ensued on this subject, in which the President, Mr. Greenhow, Dr. Bulman, and other gentlemen, took part; but the numerous remedies suggested, and the different value assigned to each by different practitioners, served to show the still unsettled state of medical opinions on this question.

PARIS ACADEMY OF SCIENCES.

On the Chemical Statistics of the Human Body.

M. Regnault presented a communication from M. Barral, entitled, "On the chemical statistics of the human body." M. Barral states in this communication that he has endeavoured to resolve, by a direct analysis of the food and the evacuations, the following problem:—"The quantity and the elementary composition of the food, solid and liquid, taken per diem being known, to determine the quantity and the elementary composition of the evacuations, perspiration, and other excretions, so as to ascertain the gains and losses of the human body." The following are the conclusions and the *résumé* of his experiments:—

1. He found that the carbon burnt each day by the oxygen of respiration was identical in proportion to that arrived at by another mode of experiment by MM. Andral and Gavarret; but to the causes of variation indicated by those authors he adds a new one:—the quantity of carbon consumed in winter is about one-fifth more than that consumed in summer.

2. The quantity of nitrogen contained in the food is greater than that of the evacuations, so that a part of this gas must be exhaled by the perspiration. This portion rises as high as one-third or one-fourth of the nitrogen taken into the system, but it is only one-hundredth part of the carbonic acid produced. In a healthy state of the system, the relation of carbon to nitrogen is about 100 to 8.

3. The hydrogen and the oxygen are not found in the exact proportions for the formation of water; there is always in the food an excess of hydrogen which may be considered as in part burnt by the oxygen of respiration. The hydrogen thus burnt is on an average equal to one-third of the carbon transformed into carbonic acid. This hydrogen burnt in respiration is not all the hydrogen contained in the food: the evacuations are richer in hydrogen than the food, in the proportion of about 8 to 5.

4. The oxygen necessary for the transformation into carbonic acid and water, of the carbon and hydrogen of the food burnt in respiratiou, is to the food as 1 to 3.

5. The water, as well natural as that formed as a consequent of respiration and digestion, is on the average $\frac{87}{100}$ of the food, increased by the oxygen of the atmosphere combined with it. The water of perspiration is generally rather more than that of the evacuations. In old people, however, the water of perspiration is reduced to one-third of the water of the urine and the excrements.

6. In three experiments a larger quantity of chlorine was found in the food than in the evacuations; in two other experiments a small excess of chlorine was found in the evacuations. A certain quantity of chloride of sodium, amounting almost to one-third of the quantity taken, does not pass off by the evacuations.

7. The chemical statistics of the human body may thus be stated:—

Taken into the system—

Liquid and solid food	74·4
Oxygen	25·6
	100·0

Passed out of the system—

Wrter of perspiration	34·8
Carbonic acid	30·2
Evacuations	34·5
Other losses	0·5
	100·0

In general the perspiration is to the evacuations as 2 to 1; but in old people the evacuations exceed the perspiration.

In deducting from the total quantity of heat produced each day, the heat taken by the evaporation of the transpired water, that taken by the air of the respiration, and lastly, that taken by the food and the evacuations, it is found that on an average the heat lost by radiation is 30000 per diem, or 1250 per hour, in summer, and 42000 per diem, or 1750 per hour, in winter. The following will serve to indicate the heat taken by the body, and the heat lost by radiation, &c.:—

Heat taken by the evaporation of the water of perspiration	24·1
Heat carried off by the air of respiration	7·3
Heat taken by the food	2·2
Ditto by the evacuations	1·8
Heat lost by radiation and by contact	64·6
	100·0

Sitting of October 30.

No medical communications of interest were presented.

M. Edward St.-Evre, conservator of the chemical museum at the Polytechnic school, read a paper on certain new chlorine bodies derived from benzoic acid.

In a work published some years since, M. Fremy shewed, that by combining the oxidizing forces of chlorine, and of the alkalies in concentrated solution, we might acidify certain metallic oxides. More recently, M. Cahours, in studying the action of chlorine and bromine on organic salts, with a potash base, discovered several bodies of much interest. M. St.-Evre undertook to examine systematically the action which chlorine exercises on the concentrated alkaline solutions of salts, formed by the organic acids with 4 atoms of oxygen. In a former communication, he announced that the body obtained a new acid, derived from benzoic acid, by the elimination of 4 atoms of carbon, and the substitution of 2 atoms of chlorine. It is the result of these researches which St.-Evre presented at this sitting. A

DIAGNOSIS OF AFTER-PAINS.

The diagnosis of after-pains is, generally speaking, an easy matter, but the practitioner may sometimes be led into error from the patient's complaining of pain upon pressure being made over the uterus; whereas, in point of fact, this tenderness arises merely from his happening to feel the uterus during its contraction, or from the stimulus of the hand exciting an after-pain. To treat after-pains for inflammation is only trifling, when compared with the danger of mistaking inflammation for after-pains,—an error that might involve the life of the patient. There is one circumstance which usually exerts considerable influence upon the production and severity of after-pains, and this is, the length of the second stage of the labour; for if from any cause this has been tedious, the subsequent contractions of the uterus will generally be proportionately less painful; and so, conversely, if the second stage has been precipitate, after-pains are more likely to follow or be more severe.—*M'Clintock and Hardy's Practical Observations*, p. 11.

Correspondence.

THE CHOLERA AT ARCHANGEL—FAILURE OF KREOSOTE AS A REMEDY.

Sir,—I should have written some time back, to report progress of epidemic cholera in the north of Russia, but that I have been engaged writing a report of this pestilence as it has lately manifested itself at Archangel, at the request of the British Consul, Mr. Whitehead, for the Foreign Office. As the chances are that it will be doomed, and perchance deservedly, to profound oblivion within the walls of that Office, and as it may possibly contain something worthy of being recorded, the Consul, at my request, will forward a copy to you. As my object is utility, not notoriety, you will make that use of it which you may deem fit.

It gives me much pleasure to find, by the public papers, that the light of truth relative to the mode of progression of the pestilence in question begins to be more perceptibly felt, and that the Government is taking protective measures against importation. Had a strict and efficient quarantine been established on the Persian frontier of Russia in 1846, there is little doubt but the calamity which has overtaken this empire, and which now threatens the rest of Europe, might have been averted, and two per cent. of the population saved from an untimely death.

I understand that the instructions relative to vessels arriving from an infected place, on board of which a man has died of cholera, are, to subject the clothes of the deceased to submersion in the sea. The most prudent course would be to destroy them. Nor is this alone sufficient: the vessel ought to be put in quarantine, and the wearing apparel of the crew subjected to a disinfecting process,—as exposure to a high degree of heat. Experience teaches that the miasm remains dormant in the system for days, and even weeks, and generally manifests itself on the arrival of the individual infected in a new place. I should recommend a quarantine of ten days to a fortnight as the longest period required.

As I have explained my views respecting the nature of this disease, and the best method of treatment, in the report above alluded to, I shall refrain from any further remarks on the subject here. I may, however, mention that all the much-vaunted specifics have been found to fail. I am an enemy to any one exclusive medicine for the treatment of this disease, as experience has taught me that it is irrational and inefficient, and that it is by a well-devised combination of means, in accordance with general principles, that we can best combat the disease.

A remedy has been brought into use in this town by two German physicians, which is held by them in so much estimation that they look upon it as a specific: they prescribe it in all stages and in all grades of the disease, with the most surprising success; yet, strange to say, in other hands, though prescribed and administered in the same manner, it loses its magic virtue. If any death takes place in the hands of the discoverers, it is invariably owing to some extraordinary concatenation of circumstances over which the remedy could not reasonably be expected to have any control. The medicine in question is *Kreosote*, administered every half or every hour, according to the severity of the case, in the dose of half a drop in syrup. During its use water or drink is given by teaspoonfuls; to the best of my recollection a teaspoonful every hour: it matters not if the patient is parched to a cinder by thirst, or if his blood be drained of its last drop of water; in fact, this last consummation is regarded as the most successful method of arresting the purging, which is looked upon as a species of hæmorrhage, consisting of albumen chiefly. That this supposed fact, should have escaped a host of great men and acute observers, Andral, &c. &c., who could discover no albumen in the alvine evacuations of choleric cases, is strange enough. In my humble way I have boiled the same fluid without observing any; indeed, I have found it to lose its rice colour and become clear. The rice colour is chiefly owing to oil globules absorbed from the system. Another surprising feature in the character of the remedy in question is, that it manifests great predilection for patients living in the obscurity of private practice, and seldom indeed condescends to visit with its benefits patients residing within the walls of an hospital.* I shall furnish further particulars in my report; meantime, my own opinion is, that it seems to answer remarkably well in some cases of no severity, but where there is strong congestion and irritation of the stomach and bowels, as observed during the height of the epidemy, it not only cannot do any good, but it is sure of doing harm. In the Russian medical periodicals mention is made of its having been found useful at St. Petersburg to relieve the vomiting, but nothing as to its specific virtue.

The epidemic cholera broke out in this town on the 8th July, O. S., reached its maximum on the 17th, declining slowly, disappearing entirely about the middle of August, and reviving again in September, with the appearance of cold wet weather. At this moment there are only a few cases of severity, but a good many suffer from diarrhoea, which, if neglected, may terminate in a seizure. As it will be seen by my report, the present epidemy was much milder at Archangel than that of 1831, that is to say, fewer sickened, and the mortality, on the whole, is less. It is a great satisfaction to know that every person, even the most timid, may, by proper care, be saved from a choleric seizure.—I am, sir,

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* Kreosote has just been tried in our hospital in a fair case for experiment. It brought on tenesmus, bloody stools, pain over the whole abdomen, terminating in death, without causing one sign of reaction during thirty-two hours.

Your obedient servant,
John Mackenzie, Surgeon,
Naval Hospital, Archangel.
Oct. 2d, O. S., 1848.

⁂ We have not received the report.

PROOF OF THE COMMUNICABILITY OF ASIATIC CHOLERA.

Sir,—In consequence of reading your excellent leading article of October 13, on Asiatic cholera, in my monthly number of the **Medical Gazette**, I feel induced to offer the following case, which must be first set aside before I can believe in the non-contagion of Asiatic cholera.

In 1832, I was called upon to visit a man of the name of Stonehouse, in Bake-house yard, of this borough, who had just been landed from a ship. I found it a decided case of foreign cholera, in a state of collapse, as cold as ice, and of a leaden hue. This was the first case in this town, and *imported*. I remember well telling Stonehouse's wife to be cautious, and not be too much about her husband, as it was not yet decided about contagion. The result was, that the wife took it and died the first. Here we have an isolated case imported into a town that was free from cholera, and the very wife who was the nurse fell the first victim.

In 1833, this town was fearfully visited by Asiatic cholera, but owing to the valuable precautionary measures that were adopted at that time, and from the noble manner in which the rich came forward in aid of the poor, this scourge was wonderfully mitigated. My experience leads me to say that, if every one would apply for medical aid immediately the premonitory symptom of bowel complaint comes on, there is nothing more easy to check. If the Board of Health were to placard all the towns and villages in Great Britain, cautioning and intimating to all the inhabitants, that the choleraic bowel complaint was equivalent to bleeding to death, applications would be made at once for medical relief, instead of medical men being applied to too late, when too often they are called upon to visit, and witness all the phenomena arising from the exudation of serum from the stomach and bowels, consequently arresting all other secretions: hence the frightful shock to the nervous system and vital powers.

I am, sir,
Your obedient servant,
Geo. Merryweather, M.D.
Whitby, Nov. 2, 1848.

REMARKS ON THE LAST SANITARY MANIFESTO OF THE GENERAL BOARD OF HEALTH.

Sir,—I have just perused in the Evening Express of this day, a document purporting to be from the Board of Health, sanctioned by them apparently, as it bears the signature of their secretary, H. Austin, Esq. Doubtless, this lengthy production will interest the attention of all, and excite the consideration of the members of the medical profession in no small degree, from the very painstaking manner in which it is got up, and the peculiarly contradictory character of the opinions or dogmas (whichever term you choose, it matters little) they have thought proper to enlighten the public with, and which they further seem to consider the public must place implicit confidence in, and rely on the matured belief or opinion of that Board. Happily, it cannot be said to express the opinion of the whole medical profession on the subject which so *personally* now interests every one, as, contrary to all established rules in such matters, there is only one medical person in that commission. What other nations may say on such a constitution of a Medical Board of Public Health I shall not stop here to inquire; and as idle would it be to express what the general opinion of the great bulk of the profession *here* is on the same point.

We shall not pursue the whole of their prolix document through the tedious labyrinth of the duties of guardians, the removal of nuisances, &c., all of which we conceive to be deserving of the highest commendation, and as such they ought to be rigidly enforced for the benefit of every one, and especially for the behoof of those who, from their poverty and other unfortunate circumstances, are less unhappily situated, as to danger from the cholera, than their more affluent fellow-countrymen; and which, if they have any basis in the truthful exposition of epidemic diseases, apply with tenfold force to the means of preventing the deadly fevers which desolate the length and breadth of the land incessantly, in a degree to which the cholera is but as a mere passing shadow of the hour; but we shall shortly inquire into what we consider to be the contradictory statements of the Board, and which, if such, will tend very much to depreciate their value in the eyes of a discerning public.

Like a great master of its subject, it does not hesitate or doubt, but speaks its opinion (by the way, what notion had it on the subject in 1832—and may not some future board, say in 1864, rescind the authoritative declarations of 1848 ?) out openly, boldly, and fearlessly, in the following words :—"Though the General Board of Heath have expressed their decided opinion that cholera is not contagious, *in the common sense of the term* (we are responsible here for the *italics*); yet neither they, nor those who coincide in their opinion, consider that there is no danger of overcrowding, or that the disease is not 'catching' in ill-ventilated and ill-conditioned places."

Now, it is the most remote from our mind to excite any public alarm on the subject, but we would ask, does not the Board itself proclaim this alarm, when it states that "*they do not consider that there is* NO *danger of overcrowding, or that the disease is* NOT *'catching' in ill-ventilated and ill conditioned places.*" But the Board says, "that it is their decided opinion that the cholera is *not* contagious, in the common sense of the word." What then, we would respectfully inquire, is the common-sense of the word "contagious"? It certainly does not mean that every human being, necessarily, from contact or communication with the individual who happens to be labouring under the disease, must, *ipso facto*, therefore continuously sicken from it. There is in all contagious or infectious diseases, to render the application of the peculiar poison essential to generate the disease, an aptitude or predisposition of the constitution equally necessary and requisite, and if the body be not thereby susceptible of the impression of the poison, no effect whatever is produced on the individual so exposed. Such, we know, is the general case in exposure to typhus fever (with which cholera has many points of close resemblance), and such, we apprehend, most medical men will readily concede to be the common law in contagious or infectious disorders generally. The General Board will perhaps then please to define what they mean by the expression "not contagious in the common sense of the term;" but this requisition is altogether uncalled for, inasmuch as they say, "catching in ill-ventilated and ill-conditioned places!"

Why, the most strenuous supporter of the doctrine of contagion cannot go further—he admits always the co-operation of qualifying circumstances—and the very typhus fever, which the members of the General Board will not deny to be very infectious, and rapidly spreading in the ill-conditioned and densely inhabited dwellings of the poor, cease altogether to display that property when it occurs in rooms well aired and freely ventilated: it is, in fact, perfectly analogous to cholera, but with this most important qualifying difference, which the Board do not mention when they state its "catching" character (though they profess themselves desirous not to create unnecessary alarm in the public mind), that its force or intensity of contagious action is remarkably weak indeed, when compared with that of the typhus fever.

There are many other points in the General Board's statements which require qualification, and especially their remarks as to the distance which pestilential miasmata extend from the living animal body, which we believe were pretty accurately determined by Drs. Ryan and Haygarth, some 60 or 80 years ago, scarcely to exceed half a yard from the focus of infection. To this we may advert on another opportunity.

The General Board, holding its front up fearlessly to the support of the dogma of non-contagion in cholera, will perhaps explain, for the benefit of the uninitiated members among the medical profession, how far the annexed extract, which they present in their report, is compatible with such an assertion. "*As certainly,*" says Mr. Samuel Rogers, "*as cholera is in* MANY INSTANCES INDUCED *by the congregation of large bodies of men* (we are here again culpable for the *italics*) so will the converse be found to hold true. The disease, which was generated by the assemblage, will be destroyed by their separation."

An apology is, perhaps, requisite for the hurried manner in which these remarks are written; but the extremely contradictory character of the statements adverted to, will, I conceive, not render it necessary to observe further than that we fondly anticipate in the future lucubrations of the Board some little more consistency and less parade of propositions which mutually stultify each other.—I am, sir,

Your very obedient servant,
William Reid, M.D.

8, Great Russell Street,
Covent Garden, Nov. 1848.

ELECTRICAL PHENOMENA IN CHOLERA.

Sir,—I am desirous at the present moment of directing the attention of your numerous scientific readers to a very interesting phenomenon, more or less present in the collapse stage of cholera, which seems to have hitherto escaped the observation of medical men—viz. animal electricity, or phosphorescence of the human body. My attention was first attracted to the subject during the former visitation of that fearful disease in the metropolis. It was, indeed, singular to notice the quantity of *electric fluid* which continually discharged itself on the approach of any conducting body to the surface of the skin of a patient labouring under the collapse stage, more particularly if the patient had been previously enveloped in blankets. *Streams of electricity*, many averaging *an inch and a half* in length, could be readily educted by the knuckle of the hand, when directed to any part of the body; and these appeared in colour, effect, crackling noise, and general luminous character, similar to that which we are all accustomed to observe when touching a charged Leyden jar. I may remark the coincidence, that simultaneously with the *heat* of the body passing off, the *electricity* was evolved; and I am therefore led to ask the question—Are not the heat, electric, and galvanic fluids, *one* and the same thing? Does not the fact of the passing off of both *imponderable* substances at one and the same time, strengthen this conclusion?

Again, are not the whole of what we call *vital* phenomena produced by certain modifications of the electric galvanic magnetic matter and motions? And do we not find that these vital phenomena are continuously affected by the *relative* state of the surrounding electric medium? To what can we attribute the present fluctuating condition of the barometer, if not to it?

We know what a powerful *decomposing* action galvanism had on alkalies, under the hand of the illustrious Humphry Davy, but we do *not know*, nor have we any conception in the present state of knowledge, of the *decomposing* action of electric matter of the atmospheric air in various conditions, on the *fluids* generally of the animal body. Chemistry has failed in pointing out any *ponderable* material as the exciting cause of epidemic diseases.

In the treatment of cholera, all are agreed that *non-conducting* substances on the surface of the skin aid essentially the cure; and during the disturbed state of the atmosphere, for the purpose of retaining the *electricity* continually eliminating in the system, we are told to wear woollen bandages, flannel, and gutta-percha soles, so as to *insulate* the body as much as possible, to prevent the *heat*, the *electric* fluid, from passing off. I now leave this important subject for discussion, and for those who have studied electricity.—I am, sir,

Your obedient servant,

J. C. Atkinson.

Romsey Terrace, Westminster,
Oct. 31st, 1848.

CASE OF POISONING BY THE SEEDS OF THE HELIANTHUS OR SUN-FLOWER.

Sir,—I send you the following case of poisoning by the seeds of the common helianthus, or sun flower, never having met with any similar recorded instance. I hope it will prove interesting to your readers.

I am, sir,

Your obedient servant,

Norris F. Davey,

Late Surgeon to Millbank Prison, London.

4 p.m., Oct. 6, 1848.—I was called to attend Eliza Hammond, æt. 23, an inmate of the Romford Union House, unmarried, with an infant a few months old. I found her sitting on her bed, with an anxious countenance; eyes suffused; face deeply flushed; skin generally of a scarlet redness, and very hot; pulse 110, full, soft, and compressible; breathing rather difficult, and hurried; tongue and fauces very red, and inclined to dryness; voice hoarse; pupils natural; mind perfectly clear. She complained of a severe burning sensation in the fauces, œsophagus, and epigastrium; tingling of the skin; nausea; headache; thirst; stiffness and dryness of the throat, and difficulty in articulating. She had vomited freely about half an hour before my visit; the ejected matters not preserved. The bowels had acted once in the morning.

I found that at 10 a.m. (being then in perfect health) she had eaten a quantity of sun flower seeds: while eating them, she remarked that they had an unusually hot taste, and immediately afterwards felt a sensation of glowing in the throat and stomach. Shortly after this she became very sick and ill, and her symptoms increased in severity until the vomiting occurred; she then felt rather better, and continued to amend up to the time of my visit. She could not say how many seeds she had eaten, but she thought more than 100.

As she had vomited freely, I gave her a brisk aperient, and mucilaginous drinks, followed by salines; the next day she felt pretty well, and complained only of a slight headache and some stiffness of the throat. The child continued well throughout, and the secretion of milk was uninfluenced. Although the seeds of the sun-flower are so commonly eaten with impunity, the foregoing case shews that serious results may occasionally ensue, and it is probable that many similar instances have occurred, but that, from the generally-assumed harmlessness of the seeds, they have not been recognised as the cause of the symptoms. Hammond had repeatedly eaten them without ill effect, and on this occasion observed a decided difference in taste and pungency; whence we must conclude, that although usually absent, or in very small quantity, an acrid poison may be, and is occasionally, developed in the seeds of the sun flower.

Romford, Oct. 30, 1848.

Medical Intelligence.

THE ROYAL COLLEGE OF PHYSICIANS OF LONDON ON THE MEASURES TO BE ADOPTED RESPECTING THE PREVENTION OF ASIATIC CHOLERA.

The Royal College of Physicians of London, feeling that on the reappearance of Epidemic Cholera in England, the public may naturally look to them for advice and guidance, have deemed it proper to appoint a Cholera Committee, composed of physicians who hold important offices in the metropolitan hospitals, or who had extensive experience of the disease at its last visitation, to consider what measures it is expedient to adopt with a view of preventing the spread of the disease, and of otherwise mitigating its evils.

The Committee thus formed, have, in compliance with the wish of the College, drawn up the following remarks and instructions, for the information of the public:—

1st. Cholera appears to have been very rarely communicated by personal intercourse; and all attempts to stay its progress by cordons or quarantine have failed. From these circumstances, the Committee, without expressing any positive opinion with respect to its contagious or non-contagious nature, agree in drawing this practical conclusion: that in a district where Cholera prevails, no appreciable increase of danger is incurred by ministering to persons affected with it, and no safety afforded to the community by the isolation of the sick.

2d. The disease has almost invariably been most destructive in the dampest and filthiest parts of the towns it has visited. The Committee would therefore urge on the public authorities the propriety of taking immediate steps to improve the state of sewers and drains; to cover those which are open; and to remove all collections of decaying vegetable and animal matter from the vicinity of dwellings. They would also impress on individuals, especially of the poorer classes, the great importance of well airing their rooms, and of cleanliness in both their dwellings and persons.

3d. A state of debility or exhaustion, however produced, increases the liability to Cholera. The Committee therefore recommend all persons during its prevalence to live in the manner they have hitherto found most conducive to their health; avoiding intemperance of all kinds, and especially the intemperate use of ardent spirits and other intoxicating liquors. A sufficiency of nourishing food; warm clothing, and speedy change of damp garments; regular and sufficient sleep; and avoidance of excessive fatigue, of long fasting, and of exposure to wet and cold, more particularly at night, are important means of promoting or maintaining good health, and thereby afford protection against the Cholera.

The Committee do not recommend that the public should abstain from the moderate use of well-cooked green vegetables, and of ripe or preserved fruits. A certain proportion of these articles of diet is, with most persons, necessary for the maintenance of health; and there is reason to fear that, if they be generally abstained from, now that the potato crop has in great measure failed, many persons, especially amongst the poor in large towns, will fall into that ill condition which in its highest degree is known as scurvy, and that they will in consequence be the readier victims of Cholera. The Committee likewise think it not advisable to prohibit the use of pork or bacon, or of salted, dried, or smoked meat or fish, which have not been proved to exert any direct influence in causing this disease. Nothing promotes the spread of epidemic diseases so much as want of nourishment; and the poor will necessarily suffer this want, if they are led to abstain from those articles of food on which, from their comparative cheapness, they mainly depend for subsistence.

On the whole, the Committee advise persons living in districts in which Cholera prevails to adhere to that plan of diet which they have generally found to agree with them; avoiding merely such articles of food as experience may have taught them to be likely to disorder the stomach and bowels.

4th. The Committee are unable to recommend an uniform plan of treatment to be adopted by the public in all cases of looseness of the bowels supposed to be premonitory of Cholera. It is doubtless very important that such ailments should be promptly attended to; but since they may arise from various causes, of which a medical man can alone judge, the Committee deem it safer that persons affected with them should apply at once for medical assistance, than that they should indiscriminately use, of their own accord, or on the suggestion of unprofessional persons, powerful medicines, in large and frequently-repeated doses. Should the looseness of the bowels be attended with feelings of great exhaustion and chilliness, the person should, of course, be placed in a warm bed, and the usual means of restoring warmth to the body be assiduously employed, until professional advice can be obtained.

5th. In order that the poor may have the means of obtaining such assistance promptly, the Committee recommend that the proper authorities should at once establish Dispensaries in those parts of the town which are remote from the existing medical institutions; and that they should also take steps to provide distinct Cholera Hospitals, which it will require some time to organise, and which they believe will be found to be absolutely necessary, should the epidemic prevail in this metropolis with a severity at all approaching that which it manifested on its first appearance in England. The Committee wish it to be clearly understood that they do not recommend the establishment of such Cholera Hospitals, on the ground of effecting the separation of the sick from the healthy, and of thus preventing the spread of the disease; but solely in order that, should the epidemic prove severe, proper attendance and prompt treatment may be ensured for the sufferers from Cholera among the poorest and most destitute class. The existing hospitals, even if the authorities should consent to the admission of persons ill of Cholera, could not furnish the requisite accommodation, unless they were shut against persons labouring under other severe diseases: a measure which, at the approach of winter especially, would add much to the distress of the poor.

6th. In conclusion, the Committee would urge on the rich, who have comparatively little to fear for themselves, the great duty of generously and actively ministering to the relief of the poor, while the epidemic prevails; bearing in mind that fuel, warm clothing, and sufficient nourishment, are powerful safeguards against the disease.

They deem it most desirable that the parish authorities should at once improve the diet, and increase the comforts, of the poor under their charge; and that the wealthy should form Societies for the supply of food, clothing, and fuel, to those who, though not paupers, still need charitable assistance in the present emergency.

Such measures, which it is the duty of those possessed of power and wealth to adopt, would, the Committee believe, if liberally carried out, deprive the Cholera of half its victims.

JONH AYRTON PARIS,
President.
FRANCIS HAWKINS,
Registrar.

College of Physicians,
Oct. 28, 1848.

SUGGESTIONS ON THE TREATMENT OF CHOLERA PATIENTS, ADDRESSED TO THE PAROCHIAL BOARDS JOINTLY BY A COMMITTEE OF THE ROYAL COLLEGE OF PHYSICIANS AND THE ROYAL COLLEGE OF SURGEONS OF EDINBURGH, AND DR. SUTHERLAND, THE COMMISSIONER OF THE GENERAL BOARD OF HEALTH.

I. At the district dispensaries there should be kept, not only the medicines, but the other materials requisite for the treatment of the disease, in the houses of the poor,—such as straw-mattresses, blankets, vessels for heating sand or salt, spirits of turpentine, and cloths for applying it, mustard for cataplasms, coals and wood for firing; but these are to be given out only on the orders of medical men who have seen the patients. There should also be the necessary messengers, materials for fumigation, and the means of conveyance to hospital.

II. On an application to one of these dispensaries from a patient reported to have diarrhœa, the attendant will proceed thus:—

1. He will issue directly twelve of the pills containing opium, hereinafter specified, with directions to give two immediately, and repeat them every three hours while the diarrhœa lasts; but if there be along with it vomiting or cramps, every hour while these symptoms last, until the medical man arrives.—2. He will give directions for applying external warmth by all available means—blankets, hot bricks, hot sand or salt, turpentine, or mustard poultices, on the abdomen and extremities, bottles of hot water laid alongside the patient, frictions with hot flannels, and as warm covering as possible.—3. He will direct that the patient drink nothing for a quarter of an hour after each dose of the pills, but that at that interval after each dose, he take a table-spoonful of spirits with hot water, or two table-spoonfuls of spiced wine; and if his skin is felt to be cold and damp, repeat this every half-hour.

N.B.—In the case of children who are from 10 to 14 years of age, he will be careful to direct half the quantities both of opiates and spirits, and in younger children proportionally smaller doses.—4. He will give the address of the medical man attached to the district where the patient is, and direct that he be immediately informed of the case, and, if necessary, send a messenger to inform him.

The following pills may be kept constantly at each station, and the medical officers may leave general directions as to the selection of one or other of these in the first issues to the patients:—

℞ Acet. Plumbi, ʒss.; Opii, gr. xij.; Conserv. Ros., q. s. Ft. pilulæ xvi. Sign. Lead and Opium Pills.

℞ Tannini, ʒss.; Opii, gr. xij.; Pulv. Capsici, gr. xvj.; Conserv. Ros., q. s. Ft. pilulæ xvi. Sign. Astringent Pills with Opium.

℞ Calomelanos, ʒss.; Opii, gr. xij.; Pulv. Capsici, gr. xvj.; Conserv. Ros., q. s. Ft. pilulæ xvi. Sign. Calomel and Opium Pills.

The doses of all these should be as above directed. Along with these, in the early stage of the disease, and when the skin is cold and damp, such a stimulating mixture as the following, besides the wine and spirits, may be used :—

℞. Ætheris Sulph.; Spirit. Ammoniæ Aromat. ana ℥ss.; Tincturæ Cinnamon. Comp. ℥j. (*Misce.*) Sign. Two teaspoonfuls to be taken every half-hour or hour.

III. The medical officers should be reminded of the paramount importance in this disease of early and assiduous treatment and careful watching of the patients, by themselves or trustworthy assistants, *in the early stage:* the objects being, if possible, to prevent the patient falling into the state of collapse, or if he should, to bring on reaction as speedily as possible.

Concurrent testimony is in favour of opium, as the most powerful remedy, provided it be given in *full* and *repeated* doses within the first 12 hours—at farthest within the first 24 hours from the attack—if possible before there is collapse, certainly before there is the tendency to stupor, which is to be expected after the collapse.

When reaction has taken place, and the tendency to stupor shewn itself, the farther use of the opium and astringents requires much caution, and the case must be treated as one of febrile disease, particular attention being paid to the quantity and quality of urine passed.

IV. When removal of the patient to hospital is thought necessary, it should be effected in the recumbent posture; and the litter employed should be so constructed and managed, as to secure, as far as possible, protection and warmth during the removal. Litters of this kind are kept at the cholera hospital, Surgeon Square, and at the Royal Infirmary.

V. When the first patient affected in a house (particularly if crowded, dirty, and inhabited by destitute people) has been removed or has died, or in the case where some of the members of the family are of no use for the assistance of the patient, the medical officer will consider the advantage of removing the remaining or less useful members of the family—and when the locality is damp or ill-aired, or the cases have occurred in rapid succession, some of the neighbours—without delay into one of the houses of refuge prepared for their reception; experience having shewn that when this measure has been promptly adopted, successions of fatal cases in the same family, such as have already occurred in at least eight of the places where the disease has recently appeared in Edinburgh, have very generally been averted. If this measure is assented to by the family, he will give immediate notice to the officers of police in his return of the case, that the house may be taken charge of by the police, and thoroughly cleansed. Some objection to this measure on the part of the affected families may always be expected at first, but a little explanation, and a little experience of its effects, will very generally surmount the difficulty.

THE DUBLIN BOARD OF HEALTH ON THE REMUNERATION OF MEDICAL MEN FOR ATTENDANCE ON FEVER CASES.

The Board of Health have had under consideration those provisions of the amended Fever Act, 12th Vict., c. 131, which have reference to the Salaries of the Medical Officers at the Temporary Fever Hospitals, and are of opinion that five shillings a day, hitherto allowed to medical practitioners for attendance on Temporary Fever Hospitals or Dispensaries within their own districts, is only a reasonable remuneration for the labour and risk incurred in such attendance, and that it should not be departed from.

This amount of remuneration is recommended by precedent, as it appears from Official Returns laid before the Board, that such was the remuneration generally allowed to medical officers appointed to similar duties during the prevalence of former epidemics of fever, viz., in the years 1816, '17, and '18, and 1826, &c.; and it has received the approbation of the Lords of the Treasury, having been paid with their sanction from the commencement of the present epidemic fever in 1846, up to the passing of the amended Fever Act, 12th Vict., c. 131, on the 5th September last.

Representations have been laid before the Board of the expediency of constructing a scale which might apportion the rate of remuneration to the relative sizes of the Temporary Fever Hospitals, and the corresponding amount of duty to be performed. The Board, after full consideration, are convinced that it would be hardly practicable to establish any such scale. The numbers under treatment in each hospital must necessarily vary from week to week, and if the numbers in hospital were permitted to be the criterion of the amount of salary, the medical officer would be constantly exposed to the imputation of retaining a greater number of patients than necessary, in order to entitle him to a certain amount of salary. Another mode of lessening the expenditure for medical attendance has been proposed for the consideration of the Board, viz., that the attendance of the Temporary Fever Hospital should be given to the medical officer already holding the Workhouse Hospital, or some other appointment or appointments under the Board of Guardians, and that thus by giving such officer two or more medical appointments, the united salaries would amount to a reasonable sum, although the rate allowed for any one might be very small.

The Board of Health consider that such

an arrangement would be unjust to the medical officer, and injurious to the sick.

If attendance on a Temporary Fever Hospital be in itself worth a certain rate of remuneration, that amount of remuneration should be given for that particular duty, without reference to any other appointment which the officer may hold—each duty should be estimated for, and paid for in respect only to itself. The practice of imposing several appointments on the same medical officer on the ground of economy, is, however, open to another and more serious objection:—it will be injurious to the sick poor. Every practitioner requires a considerable portion of each day for private practice, which is generally the main source of his income; and if a greater amount of hospital duty be imposed on a medical officer than he can perform within from one to three hours at the very farthest, the sick poor must be neglected;—no extent of supervision, no inspection, how often soever repeated, can prevent neglect in such cases. It appears, by a return before the Board, that the average number of patients in each Workhouse Hospital in Ireland, in the last week, has been 105. If such cases were like the ordinary cases in a Fever Hospital, similar in kind or type, the time required for mere attendance would not be so great; but when it is recollected that there is not only this large average number, but that it includes every variety of medical and surgical diseases, requiring, occasionally, operations and dressings, it is evident that great care should be taken not to curtail, on the ground of economy, the time required for the due performance of such laborious duties. In no instance in Dublin is the duty of attending 100 patients, in a general hospital, imposed upon one officer.

In England the practice has grown up of medical officers undertaking a greater amount of medical attendance than they could themselves adequately discharge, and of committing the care of the sick poor to assistants engaged for that purpose. The Board most strongly disapprove of such a system; for it is evident that there can be no sufficient security for the professional knowledge or conduct of assistants so employed. Adequate skill and attention can only be afforded and secured to the poor by not imposing upon any medical officer *any greater extent of public duty than he can honestly and fairly discharge* without trenching on his private practice, and by requiring that he shall personally fulfil the duties of any medical appointment he may undertake. This course is not more clearly pointed out by justice and humanity, than it is recommended by true economy; for neglect or bad management of the poor suffering under sickness or accident, will render them or their families a lengthened charge on the rates.—By order of the Board,

W. H. Hopper,
Secretary.

Central Board of Health, Dublin,
11th October, 1848.

REPORT OF THE PHYSICIANS AND SURGEONS OF SOUTHAMPTON ON THE BEST MEANS OF PRESERVING HEALTH ON THE REAPPEARANCE OF CHOLERA IN ENGLAND.

1. *Temperate habits.*—Intemperance or any excess, late hours, and every habit which weakens the body, should be altogether avoided. Those who indulge in intoxication and debauchery are most liable to be attacked.

2. *Diet.*—Wholesome and nutritious food in moderation prevents disease; and those who are poor should rather spend their money in good food than in beer and spirits. Those who are weak, or are liable to bowel complaints, should abstain from fruit and vegetables. All should avoid sour beer, acid drinks, unripe fruit, and fish not perfectly fresh, especially shell-fish.

3. *Cleanliness.*—The skin should be frequently washed, and the greatest attention paid to personal cleanliness.

4. *Clothing.*—The clothing should be such as to keep the body comfortably warm. Flannel should be worn next the skin, particularly around the bowels and loins. No one should rest in wet clothes or with wet feet.

5. *Ventilation.*—The windows and doors of rooms should be frequently opened, especially if many persons are working together at sedentary occupations in the same apartment. Bedroom windows and doors should be freely opened during the day, and all fire-boards or obstructions in the chimneys removed at night as well as by day. Bedrooms without chimneys should have a ventilator in the window, or the door should not be shut at night, otherwise they are very unwholesome. The beds should be stripped early, and not made for several hours.

6. *Drainage.*—The house drains should be well washed down every evening, as experience has shown that this is necessary even where the drains are well trapped. If any bad smell is complained of in the house, its cause should be discovered and removed. In such cases, the traps of the drains should be examined. No filth whatever should be allowed to accumulate near the house. All rooms requiring it should be fresh whitewashed.

7. *Improper medicines.* — Epsom salts and strong purgatives should be avoided.

8. *Looseness of the bowels.*—Persons attacked with looseness of the bowels, however slight, should immediately apply for

medical advice; for looseness is the first stage of cholera, and, if neglected for a few hours, may pass into fatal cholera. By attending to this precaution, the disease was checked in many places in 1832, and in the present epidemic in Europe it has been found "*that the greatest attention must be paid to the looseness which precedes cholera.*"

9. *Protection against cholera.*—In conclusion, the public are reminded that those who are temperate in all things, cheerful and free from alarm, by confidently trusting the kind providence of God, active and regular in their habits, early in their hours, and clean in their persons and houses, are the least liable to be attacked with cholera.

REJECTION OF THE RECOMMENDATIONS OF THE NON-MEDICAL BOARD OF HEALTH BY THE PRACTITIONERS OF WORCESTER.

At a Meeting of the medical practitioners of Worcester, held October 19th, 1848, at which twenty-one members of the profession were present, Dr. Hastings in the chair, it was moved and seconded:—

That it appears to this meeting, that on the late occasion of the prevalence of cholera in Worcester, it was found very beneficial to have a separate establishment in a healthy locality, for the treatment of cholera patients, and also an establishment for receiving the inmates of houses in which the disease had occurred, and who had not been affected. This meeting cannot therefore concur in the recommendation of the Board of Health, that cholera patients should be received into the General Infirmary or at the Dispensary.—The resolution was carried with two dissentients.—*Prov. Journal.*

ALLEGED UTILITY OF CAMPHOR IN THE TREATMENT OF CHOLERA.

Letter to the Right Hon. Lord John Russell.

My Lord,—Some time since I had the honour of directing your attention, and that of Mr. Chadwick, to my Theory of Cholera, published in the "London Medical Journal," 1832. I there showed, that during all my experiments as a member of the Central Board of Health, the origin, progress, and successful treatment of cholera depended on circumstances, the exciting cause of which consists in "*a broken balance of animal electricity*, occasioned by a want of equilibrium between that of the atmosphere and the magnetism of the earth."

When the natural galvanic energy of man is depressed, or disturbed to a certain degree, chemical changes commence; vital action is prostrated, and animal heat depressed; the nerves are disturbed, the bowels deranged, and the secretions suppressed or vitiated.

Referring to the "Lancet," of September and October instant, for details, I beg to assure your Lordship, I have found that camphor, when in the fluid state, has the power, in large doses, of creating and maintaining a more natural equilibrium of animal heat and electricity, and for a longer time, than any other internal remedy. *Camphor* in the solid form, or in mechanical mixture, is too slow of digestion when the stomach has little power, as in cholera; *but in the fluid state it acts at once, arousing electric energy, neutralising negative galvanism, maintaining the circulation, preventing cramps and collapse, promoting perspiration, and procuring sleep.*

I have now the pleasure to inform your Lordship, that the Fluid Camphor, which I lately submitted to the profession, through Mr. William Bailey, of Wolverhampton, is by far the best and most speedy agent for restoring the electric equilibrium proper to the human body. I therefore request your Lordship, at this alarming time, to appoint a medical commission to investigate and report upon this important subject.

I remain, my Lord,
Your most obedient servant,
James Murray, M.D.,
T.C.D. and Edinburgh; Inspector of Anatomy.

Merrion Square, Dublin,
17th October, 1848.

DEATHS IN LONDON DURING THE QUARTERS ENDING SEPTEMBER, 1847-8.

Causes of Death.	Quarters ending Sept.	
	1847.	1848.
All Causes . . .	13187	13503
Specified Causes . .	13158	13450
Violence, Privation, Cold, and Intemperance. .	464	471
Small Pox . . .	320	435
Measles	521	154
Scarlatina . . .	316	1560
Hooping Cough . .	238	340
Croup	62	63
Thrush	82	77
Diarrhœa . . .	1196	1048
Dysentery . . .	143	171
Cholera	98	153
Typhus	895	882
Phthisis or Consumption .	1581	1534
Hydrocephalus . .	415	351
Apoplexy . . .	276	282
Convulsions . . .	521	466
Pericarditis . . .	20	30
Aneurism . . .	18	19
Disease of Heart . .	331	328
Bronchitis . . .	330	357
Pleurisy . . .	35	22
Pneumonia . . .	409	388
Asthma . . .	96	64
Teething . . .	163	117
Childbirth . . .	91	57

THE CHOLERA AT WOOLWICH.

Woolwich, Nov. 6.—The number of cases amongst the convicts up to yesterday at 12 o'clock were—51 admitted, 17 deaths, 18 discharged as recovered, and 8 convalescent. There has been no change of any kind in the report up to 12 o'clock to-day. When the number of deaths, recoveries, and convalescent, does not amount to the number admitted, the others, of which there is a difference of 8 to-day, are labouring under the disease, and appear only amongst the admitted.

THE CHOLERA AT HULL.

For 11 days not one case of cholera had occurred in Hull. On Sunday, the 29th October, however, there were two fatal cases. One was that of a young sailor, named Henry Mallinson, who died on board a keel in the dock, and the other that of an elderly woman, named Mary Stubbs, residing in Sewerland. The medical attendants declare both these to have been undoubted cases of cholera.

SANITARY REGULATIONS RESPECTING EMIGRANT SHIPS.

The following important orders regarding emigrant ships have just been issued, in pursuance of the 13th section of the act 11th Victoria, chap. 6, and the provisions of the Passengers' Act:—

No vessel proceeding to North America is to carry more than one passenger to every two tons of the registered tonnage of the ship; nor, whatever be the tonnage, more than one passenger to every 12 clear superficial feet of deck on which the passengers live, and one passenger for every 30 superficial feet on the orlop deck. The master is liable to a penalty not exceeding £5 for every person in excess. The lower deck of the ship must not be less than one and a half inches in thickness, and properly secured to the hold beams; the height between decks is to be six feet at least; there must not be more than two tiers of berths, and the bottom of the lower tier must be six inches above the deck. The berths are not to be less than six feet in length and 18 inches in width for each passenger. All ships carrying 100 or more passengers are to carry a duly qualified surgeon; a proper supply of medicines is to be provided for the voyage, and no ship is to proceed until the medicine chest and passengers have been inspected by a medical practitioner. All passengers who may be discovered to be affected with any infectious disease, either at the original port of embarcation, or at any port in the united kingdom into which the vessel may subsequently put, may be relanded with those members of their families, if any, who may be dependent on them or unwilling to be separated from them. Ships that after sailing may put into any port of the united kingdom, must have their provisions and water replenished before they can be allowed again to sail, under a penalty not exceeding £100.

LECTURES ON ANATOMY IN THE UNIVERSITY OF CAMBRIDGE.

The Professor of Anatomy has given notice that he will commence his Course of Lectures on the Anatomy and Physiology of the Human Body, on Tuesday, November 14, at 1 o'clock, in the Anatomical School. The Inspectors of the Anatomical Museum for the present year have reported to the Senate, that they have examined the museum, and have found the collection in good order, and the specimens in an excellent state of preservation. About 50 specimens have been added to the collection since the last report.

UNIVERSITY OF LONDON.

B.M. SECOND EXAMINATION.

PASS EXAMINATION.—1848.

Monday, Nov. 6.—Morning, 10 to 1.

Physiology.

Examiner, Dr. Carpenter.

1. What are the sources of the *demand for aliment* in the human body; and what are the principal conditions by which that demand is regulated?

2. Enumerate the principal classes of *alimentary materials;* state the purposes to which they are severally subservient in the economy; mention the chief proximate components of bread, meat, potatoes, milk, rice, and arrow-root; and state the quantity of food ordinarily requisite to maintain the human system in vigorous action.

3. Describe the general plan of the *circulation of the blood* in articulated and molluscous animals; and state the distinctive peculiarities of the circulating apparatus in fishes, reptiles, birds, and mammals.

4. Describe the structure of the *liver* in insects and crustacea, and point out the relation between the development of that organ and the energy of the respiratory process; describe the composition of *bile*, and state what is known of its sources, its uses in the economy, and the effects of its accumulation in the blood.

5. Explain the dependence of the *respiratory movements* upon the nervous system; describe the position of the respiratory ganglia in articulata, mollusca, and vertebrata; give the rationale of the ordinary and extraordinary movements of respiration in man; and mention what nerves are concerned in each.

6. Describe the principal stages of the *development of the nervous centres* in the human fœtus; and state how far these cor-

respond with the permanent forms of those organs in the lower animals.

Afternoon, 3 to 6.

General Pathology, *General Therapeutics*, *and Hygiène*.

CELSUS DE RE MEDICA.

Examiners, Dr. BILLING and Dr. TWEEDIE.

1. Mention the principal predisposing causes of disease, giving a few examples in illustration.

2. Explain the theory of the operation of cathartics. Mention, 1. the diseases in which they are especially indicated; 2. the circumstances by which their selection should be regulated; and 3. those which render caution necessary, or altogether forbid their employment.

3. Sketch shortly the diseases to which artisans are liable who are exposed to the noxious effects of metals in their occupation, with the hygienic rules to be adopted for their prevention.

4. Translate the following passage into English:—

Proximum est, ut de iis dicam, qui partes aliquas corporis imbecillas habent. Cui caput infirmum est, is si benè concoxit, leniter perfricare id manè manibus suis debet; nunquàm id, si fieri potest, veste velare; ad cutem tonderi: utileque lunam vitare, maximèque ante ipsum lunæ solisque concursum; sed nusquàm post cibum progredi. Si cui capilli sunt, eos quotidiè pectere; multùm ambulare, sed, si licet, neque sub tecto, neque in sole: utique autem vitare solis ardorem, maximèque post cibum et vinum: potiùs ungi quàm lavari; nunquàm ad flammam ungi; interdùm ad prunam. Si in balneum venit, sub veste primùm paulùm in tepidario insudare; ibi ungi, tùm transire in calidarium: ubi sudârit, in solium non descendere, sed multâ calidâ aquâ per caput se totum perfundere, tùm tepidâ, deindè frigidâ; diutiùsque eâ caput quàm cæteras partes perfundere; deindè id aliquamdiù perfricare; novissimè detergere et ungere. Capiti nihil æquè prodest atque aqua frigida: itaque is cui hoc infirmum est, per æstatem id benè largo canali quotidiè debet aliquamdiù subjicere. Semper autem, etiam si sine balneo unctus est, neque totum corpus refrigerare sustinet, caput tamen aquâ frigidâ perfundere: sed quùm cæteras partes attingi nolit, demittere id, ne ad cervices aqua descendat: eamque, ne quid oculis aliisve partibus noceat, defluentem subindè manibus ad hoc regerere. Huic modicus cibus necessarius est, quem facilè concoquat; isque, si jejuno caput læditur, assumendus etiam medio die est; si non læditur, semel potiùs. Bibere huic assiduè vinum dilutum, lene, quàm aquam magis expedit; ut quùm caput gravius esse cœperit, sit quò confugiat: eique ex toto neque vinum neque aqua semper utilia sunt; medicamentum utrumque est, quùm in vicem assumitur. Scribere, legere, voce contendere, huic opus non est, utique post cœnam: post quam ne cogitatio quidem ei satis tuta est: maximè tamen vomitus alienus est.—CELSUS, *De Re Medica*.

BOOKS & PERIODICALS RECEIVED

DURING THE WEEK,

With those not given in our last number.

Journal of Public Health. November 1848.

The Water-Cure Journal. Nov. 1848.

Table for the uniform Medical Registration of Cases of Cholera.

Pharmaceutical Journal. November.

London and Edinburgh Philosophical Magazine.

Annales d'Hygiène et de Médecine Légale. Octobre 1848.

Practical Observations on Galvanism, Electricity, and Electro-Magnetism, as employed in the Cure of Disease. By John Palmer Tylee.

An Introduction to Practical Chemistry, including Analysis. By John E. Bowman.

Notes on the Morbid Anatomy of Chronic Rheumatic Arthritis, &c. By Edwin Canton, F.R.C.S.

The Key of Cholera. By James William Earle.

Dr. Leared on Asiatic Cholera.

The Ethnological Journal. Edited by Luke Burke, Esq. No. VI. Nov. 1848.

On Turning as an Alternative for Craniotomy and the Long Forceps. By Robert Collins, M.D.

Edinburgh Monthly Journal of Medical Science. November.

Transactions of the Provincial Medical and Surgical Association. Vol. XVI. Part I.

The American Journal and Library of Dental Science. July 1848.

The Dublin Medical Press. Nov. 8.

Rose's Practical Treatise on Chemical Analysis. By A. Normandy. Vol. II.—Quantitative.

Practical Introduction to H. Rose's Treatise on Chemical Analysis. By A. Normandy.

Reports on Asiatic Cholera. By S. Rogers.

The Philadelphia Medical Examiner. June, July, and August, 1848.

Observations on Malignant Cholera. By Andrew Buchanan, M.D.

The Dublin Quarterly Journal of Medical Science. November.

'Pathologia Indica. By Allan Webb, B.M.S. 2d edition: Calcutta, 1848.

Practical Observations on the prevailing Epidemic, called Cholera. By James Keir, M.D. Knt. Part 1.

Practical Observations on a successful Method of treating Cholera. By Charles Patterson, M.D.

The Treatment of Asiatic Cholera. By Archibald Billing, A.M. M.D. F.R.S.

Remarks on the Extension of Education at the University of Oxford. By H. W. Acland, M.D. F.R.S. &c. Oxford.

Casper's Wochenschrift der ges. Heilkunde. Nos. 42, 43; Oct. 14th and 21st.

Report of the Edinburgh Homœopathic Dispensary on Asiatic Cholera.

METEOROLOGICAL SUMMARY.

Mean Height of Barometer				29·42
" " Thermometer^a				44·9
Self-registering do.^{b}	max.	73°	min.	27·7
" in the Thames water	—	49·2	—	43·5

a From 12 observations daily. b Sun.

Rain, in inches, 0·89: sum of the daily observations taken at 9 o'clock.

Meteorological.—The mean temperature of the week was about 2° above the mean of the month.

BIRTHS & DEATHS IN THE METROPOLIS

During the week ending Saturday, Nov. 4.

Births.		Deaths.		*Av. of 5 Aut.*	
Males	734	Males	565	Males	581
Females	727	Females	550	Females	573
	1461		1115		1154

Causes of Death.		Av. of 5 Aut.
All Causes	1115	1154
Specified Causes	1112	1149
1. *Zymotic* (or Epidemic, Endemic, Contagious) *Diseases*	423	270
Sporadic Diseases, viz.—		
2. Dropsy, Cancer, &c. of uncertain seat	44	52
3. Brain, Spinal Marrow, Nerves, and Senses	108	127
4. Lungs and other Organs of Respiration	125	222
5. Heart and Bloodvessels	42	38
6. Stomach, Liver, and other Organs of Digestion	59	67
7. Diseases of the Kidneys, &c.	6	12
8. Childbirth, Diseases of the Uterus, &c.	12	14
9. Rhematism, Diseases of the Bones, Joints, &c.	11	8
10. Skin, Cellular Tissue, &c.	2	2
11. Old Age	33	64
12. Violence, Privation, Cold, and Intemperance	29	32

The following is a selection of the numbers of Deaths from the most important special causes:

Small-pox	36	Paralysis	15
Measles	11	Convulsions	37
Scarlatina	195	Bronchitis	42
Hooping-cough	27	Pneumonia	57
Diarrhœa	38	Phthisis	110
Cholera	65	Dis. of Lungs, &c.	9
Typhus	77	Teething	5
Dropsy	16	Dis. Stomach, &c.	7
Sudden deaths	16	Dis. of Liver, &c.	11
Hydrocephalus	27	Childbirth	7
Apoplexy	25	Dis. of Uterus, &c.	4

Remarks.—The total number of deaths was 39 *below* the weekly autumnal average. See page 801.

NOTICES TO CORRESPONDENTS.

Dr. Collins.—It is against our rule to insert replies to communications which have appeared in other journals. The insertion of the letter would, besides, lead to a controversy of which it is impossible to foresee the end.

Dr. Seaton.—We have been unavoidably compelled to postpone until the next number Dr. Seaton's letter, and the plan for the registration of cases of cholera.

The communications of Drs. C. H. Jones, Snow, and Milroy, next week.

The verses on St. John Long are good, but not fitted for publication in our pages.

Dr. Jamieson's interesting case of poisoning with cantharides is not forgotten. It will shortly appear.

"J." Exeter.—The paper on contagion is so well written, that we wish to have our correspondent's assent to the proposition, that his name should be attached to it. The writer will observe that anonymous controversial attacks are not admitted into the columns of the Medical Gazette.

Mr. Christopher's paper has been received, and will be inserted as early as our arrangements will permit.

"A Subscriber" is right about the word "anæsthetic," but the term is now universally employed under a well-known meaning.

Dr. J. W. Everitt, Devizes.—We shall have great pleasure in publishing the cases.

Dr. C. Dawson (54th Regt.)—A note will be sent.

Received.—Dr. Snow—Dr. J. W. Griffith—Chirurgus.

THE GENERAL INDEX.

We have to announce to our Subscribers that a General Index to the *first* 40 *Volumes* of the London Medical Gazette will, it is calculated, form a large Volume of about 700 pages. The cost of the Index Volume, respecting which many inquiries have been made, will be Twenty-four Shillings; and it is proposed to commence it so soon as the Names of *Five Hundred Subscribers* have been obtained.—The printers, Messrs. Wilson and Ogilvy, 57, Skinner Street, will receive the Names of Subscribers.

London Medical Gazette.

Lectures.

LECTURES
ON
PRETERNATURAL AND COMPLEX PARTURITION.

By Edward W. Murphy, A.M. M.D.
Professor of Midwifery, University College, London.

Lecture IV.

COMPLEX LABOURS.
GENERAL VIEW OF HÆMORRHAGES.

Bichat's division of hæmorrhage—by exhalation—by rupture of a blood-vessel. Principles of treatment in medical and surgical hæmorrhages—Uterine hæmorrhage from the unimpregnated uterus—Hæmorrhage in the early months of gestation. Flooding at the time of delivery—arrangement of the uterine arteries and veins. The circulation in the placenta.

Descriptions of the Hunters, Weber, Goodsir. The effect of partial separation of the placenta—source of hæmorrhage—The effect of a complete separation—Objections considered—Conclusion.

Gentlemen,—The last division of labours embraces those accidental complications which may occur in the progress of parturition: some of them are extremely dangerous, even fatal, to the mother; the child is frequently sacrificed, and, with one exception, the aid of the accoucheur is always demanded; they form the last exception to Denman's definition of natural labour, and their study is of the highest importance to the practitioner.

Complex parturition includes labours attended with hæmorrhages, convulsions, ruptures of the uterus, inversion of the uterus, prolapse of the umbilical cord, twins, &c. &c. Of these complications, the first that we shall consider is hæmorrhage—the first in practical importance—first, because the issues of life and death are so much in the hands of the practitioner. The best-directed treatment may not save the patient who is attacked by convulsions. In ruptures of the uterus the recovery of the patient is recorded as a remarkable exception to the general rule; but when hæmorrhage takes place, her safety depends, in the majority of instances, altogether upon the practical experience and promptitude of the accoucheur. This alone would be a sufficient reason for demanding a careful examination of the subject; but I have an additional, and equally powerful motive, for asking a patient and impartial attention to it—because in a case of so much danger, in which it is desirable, above all things, to have rules of practice clear, decided, and intelligible, we find them, unfortunately, so involved in controversial intricacies as to render them obscure, uncertain, and contradictory.

In order to understand the principles of treatment in uterine hæmorrhage, it will be advisable to review, very briefly, the manner in which hæmorrhages take place from other parts of the body, and to point out the principles upon which are founded the different means employed to arrest them. We may compare or contrast the one with the other, and if they are similar there can be no difficulty in applying the principles of treatment for general hæmorrhages to floodings from the uterus. But if, as it appears to me, they are different, and in some degree opposed, it is of the utmost importance to observe and remember the essential characters of each, so as to avoid the very common error of employing treatment quite applicable to hæmorrhage in one way, produced for the purpose of arresting hæmorrhage caused in a manner altogether different.

There are many divisions of non-uterine hæmorrhages; that adopted by Bichat is the simplest, and will best answer the purpose we have in view. Hæmorrhages may arise either from *exhalation*, or from *rupture* of a blood-vessel. The first variety includes such as chiefly fall under the notice of the physician; the second, those hæmorrhages which it is the province of the surgeon to arrest. Either practitioner may meet with both varieties, but the object of this distinction is rather to direct your attention to the medical and surgical treatment of hæmorrhages, in order to contrast them with the management of floodings at the time of delivery.

Hæmorrhage by exhalation is most frequently observed on mucous surfaces; and whether the nostrils, the throat, the lungs, the stomach, the intestines, or the bladder be its seat, in all these instances the source of hæmorrhage exists in the minute capillary vessels, which admit red blood to exude through them. Why they do so, it is not my province to inquire; it is sufficient for me to state, that vessels, which hitherto resisted its escape, now permit red blood to pass, and that these vessels still maintain themselves unbroken. Hæmorrhages of this kind may be *active* or *passive*; either the result of local congestion in the part affected, or of diminished tone in the vessels, accompanied, perhaps, with an altered, a more fluid condition of the blood itself. The former variety will best illustrate the general treatment. Take the simplest and most common example of *active* hæmorrhage by exhalation—hæmorrhage from the pitui-

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tary membrane, and observe the symptoms. The bleeding is preceded by symptoms indicating a determination of the circulation towards the part affected—the *molimen hæmorrhagicum* of authors. The pulse is full and bounding, the temporal arteries throb, there may be giddiness or headache, a disposition to sleep, noises in the ears, &c. &c. At the same time that this local plethora exists, the circulation of the general surface and lower extremities is just as much below, as that in the head is above, the standard; the patient is therefore chilly, and complains of cold. When hæmorrhage takes place, the circulation is relieved, and these symptoms disappear; but if it continue they are again renewed—there is an effort on the part of the circulation to supply the loss caused by the hæmorrhage—there is a determination of blood towards its seat, and the symptoms of congestion return. What are the principles of treatment? It is necessary to direct the current of the circulation from the seat of hæmorrhage, and to lessen its force; hence depletion, cold to the affected part, and other such means, are employed. It is also requisite to cause the open capillaries to contract, and to promote coagulation of the blood; hence astringents are indicated, whether applied locally or conveyed through the circulation. Everything that would excite the circulation must be avoided; and if syncope take place it is often the most efficient means of arresting the discharge.

Hæmorrhage by rupture of a blood-vessel is checked in a manner somewhat different, which is best observed when the arteries of the surface are injured. If an artery be punctured, divided, or lacerated, the effort of Nature in the first instance is to coagulate the blood in the injured part. If an artery be divided, the two internal coats of the vessel retract themselves within the outer sheath; the fine cellular tissue drawn out by this retraction entangles the current of blood, and an external coagulum is formed, compressing and obstructing the orifice. A conical coagulum is also formed within the artery, and thus the impetus of the blood receives a check, the fibres of the middle coat of the artery contract, lymph is effused at the divided extremity of the vessel, and ultimately the breach is closed. Such is the contrivance of Nature for this purpose, one which would always be successful only that the current, flowing through an artery, is so strong as to prevent its accomplishment in the majority of instances: nevertheless, in lacerated arteries, where, from the kind of injury, a more efficient means of coagulation is provided, Nature often succeeds. The great object of art is therefore to control the impetus of the circulation, and to cause the blood to coagulate. This is accomplished by ligature; but if this cannot be applied, strong compression with the tourniquet is used on the main trunk of supply, and coagulation is induced by agaric and styptics locally applied. In this variety of hæmorrhage, syncope is also serviceable.

In this brief outline of general hæmorrhages, you will perceive that both varieties agree in certain common principles of treatment. First, to moderate as much as possible the force of the circulation. Secondly, to encourage the formation of coagula in the mouths of the bleeding vessels until they are closed by lymph and the inherent contractile power of their coats. Let us now examine the points of resemblance, or of distinction, between these and uterine hæmorrhages.

Uterine hæmorrhage not depending upon gestation may be considered analogous to hæmorrhage by exhalation, and the same principles of treatment are applicable to it. Uterine hæmorrhage at the early months of gestation arises from rupture of some portion of the vascular net-work that ultimately forms the placenta; it may, therefore, be included under the second division of hæmorrhages, and is controlled by coagula, as well as by lessening the force of the circulation, in order that these vessels may more efficiently contract upon themselves. But when flooding occurs at the time of delivery there are special conditions then only existing, connected with the circulation, which make a very essential difference in the character of the hæmorrhage, and in the manner in which it is arrested.

Dr. William Hunter observed, that "there is no circumstance in which the gravid uterus differs more from the unimpregnated than in the size and termination of its vessels." The uterus, at the period of parturition, is, therefore, very different from its ordinary condition. Let us briefly consider these peculiarities.

1. The womb is enlarged to its greatest extent—all its vessels are proportionately increased—the arteries in connection with the placenta are especially enlarged; and hence vessels carrying red blood appear to be much more numerous where the placenta is attached.

2. The arrangement of the vessels of the uterus is different from that of the arteries and veins in other parts of the body; consequently the manner in which bleeding from them is arrested is not exactly the same.

3. The circulation going forward in the placenta, although part of the general circulation, must be considered special, at least in its object. The quantity of blood in the uterus at this time is far beyond what is required for the nutrition of that organ. It may be increased or diminished, within certain limits, without disturbing the general circulation. The contracted uterus may be

almost emptied of its blood without affecting the pulse; but, if hæmorrhage exceed this point, if the uterus again relax, and a new demand be made to supply the deficiency, then the circulation is at once reduced to its lowest degree, and the constitution receives a shock proportionate to the magnitude of the demand. The uterine vessels are precisely adapted to meet this condition. When they are completely filled, a very large quantity of blood circulates through them for the nutrition of the fœtus, but when this is not longer required, efficient measures are provided for diminishing their size, and so interrupting the current of blood as to reduce the draught on the general circulation as nearly as possible to that required by the unimpregnated uterus.

The arteries of the gravid uterus are greatly increased in size, and "all through the substance of the uterus there are infinite numbers of anastomosing arteries, large and small, so that the whole arterial system makes a general net-work, and the arteries are *convoluted or serpentine* in their course."[*] A quantity of blood is thus conveyed to and contained within the uterus, larger than could be effected if their course were more direct: these vessels can adapt themselves better to the constantly varying size of the uterus, when in the act of expelling its contents, and the current of blood is more efficiently controlled; because, when the uterus contracts, the spiral coil of the artery is more twisted on itself, and the impetus of the blood diminished. It is possible, also, that the surrounding uterine fibres may so compress the arteries as to interrupt the circulation through them completely, by rendering the points of reflection in the artery more angular, so as to give it rather a zig-zag than a spiral direction. You perceive, therefore, that by this mechanism the agency of a new power is introduced for the purpose of suppressing hæmorrhage, which is not employed in other arteries.

The veins of the uterus are still more remarkable in the peculiarity of their arrangements, as compared with other veins. Their relative size to the arteries is greater: they are composed of a number of *large, short trunks*, communicating directly with each other, and forming an irregular net-work of vessels like capillaries greatly magnified: *their coats are single*, composed only of the lining membrane of the veins which is intimately adherent to the fibrous tissue of the uterus. *They have no valves*, therefore when the veins are distended an uninterrupted current of blood flows through them; but, if the surrounding fibres contract, temporary valves are formed, which break off the communication between these short trunks. *Their course is extremely oblique* nearly parallel to the surface of the uterus, so that the veins may be described as forming layers or planes of veins freely communicating with each other.

Mr. Owen has made a careful examination of these veins in a portion of the gravid uterus furnished him by Dr. Lee. He "commenced the dissection from the outside, removing successively, and with great care, the layers of fibres, and tracing the veins as they passed deeper and deeper in the substance of the uterus, in their course to the deciduous membrane. Every vein, when traced to the inner surface of the uterus, appeared to terminate in an open mouth on that aspect: the peripheral portion of the coat of the vein or that next the uterus ending in a *well-defined and smooth semicicular margin*, the central part adhering to, and being continuous with, the decidua. In the course of the dissection I (Mr. Owen) observed, that where the veins of different planes communicated with each other, in the substance of the walls of the uterus, the central portion of the parietes of the superficial vein invariably projected into the deeper-seated one; and where (as was frequently the case, and especially at the point of termination on the inner surface) two or even three of these wide venous channels communicated with a deeper sinus at the same point, *the semilunar edges decussated each other*, so as to allow only a very small portion of the deep-seated vein to be seen. It need scarcely be observed, how admirably this structure is adapted to ensure the arrest of the current of blood through these passages upon the contraction of the muscular fibres with which they are every where immediately surrounded."[*] Professor Goodsir repeated this dissection, and observed the same appearances.[†] Professor Simpson also made a similar examination, and observed that, "when a venous tube of one plane comes to communicate with a venous tube lying in the plane immediately beneath it, the foramen between them is not in the *sides*, but in the *floor* of the higher and more superficial vein, and the opening itself is of a peculiar construction. Looking down into into it from above, we see the canal of the vein below, *partially covered by a semilunar or falciform projection*, formed by the lining membrane of the two venous tubes, as they meet together by a very acute angle—the lower tube always opening very obliquely into the upper. In the folds of these falciform projections *the microscope shows the*

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[*] Dr. W. Hunter's Anatomical Description, &c., p. 17.

[*] John Hunter's Works, by Palmer, vol. iv. p. 68.

[†] Goodsir's Anatomical and Pathological Observations, p. 61.

common contractile tissue of the uterus."* This evidence is sufficient to prove the arrangement of the uterine veins, and the influence of this new agent — the contractile fibres of the uterus—in controlling any hæmorrhage that may flow from them. When the uterus contracts, these semilunar edges are converted into valves, and where numerous short trunks intersect each other the decussation of these valves completely closes the communication between the vessels; but when the uterus is relaxed, there is no interruption to the current of blood through the veins, and therefore the uterus in this state may be compared to a large sponge filled with fluid, while the same sponge strongly compressed and emptied of the fluid will illustrate the effect of uterine contraction. The oblique direction of the veins very much contributes to this effect, because, where two trunks meet at a very acute angle, it requires only a slight contraction of the uterus to produce a valve at the point of junction, and, if the contraction be great, the connection is broken off.

As the arteries and veins are much more numerous in the neighbourhood of the placenta, and the chief cause of uterine hæmorrhage is the partial separation of that vascular mass from the surface of the uterus, it will be necessary to examine the connection between both, in order to understand the manner in which the blood circulates through the placenta, and how this hæmorrhage occurs. This question will require your especial attention, because its demonstration is by no means easy: and hence it seems to be the rock upon which more than one ingenious theory has suffered shipwreck.

If the uterine side of the placenta be examined, you perceive a lobulated surface composed of an immense congeries of fœtal vessels compacted together into cotyledons. This surface is covered by a delicate membrane, and seems to be so applied to the walls of the uterus as to close the venous openings on its surface, without having any direct connection with them. The placenta may be peeled from the uterus more easily than the rind from an orange: no vessels seem to be broken, and the venous openings are freely exposed by the separation.

The natural inference from these facts would be, that the placenta belongs altogether to the fœtus—that no maternal blood passes into it—and that any interchange between the blood of the child and the mother takes place only at the surface of the uterus to which the placenta is applied like a cake of unbaked dough. Such had been, and is even still, the opinion of some writers, but its inaccuracy has been clearly proved.

Many years ago, the Hunters demonstrated that vessels passed from the uterus into the placenta, and the beautiful injections left behind them still remain to testify this fact. Since then several attempts have been made to repeat these injections, but without success; and thus incontrovertible evidence seemed to be afforded in favour of the opinion that the placenta was entirely fœtal. The injections and the doctrine founded upon them were considered to be equally fallacious. Such had been the opinion of Dr. R. Lee, but with creditable candour he freely admits his error, and points out the means by which he corrected it.

"It would be erroneous," he observes, "to conclude, as I did ten years ago, from similar failures" (in injections) "and other circumstances, that the maternal blood does not enter the cavernous structure of the placenta by the decidual arteries, and flow back by the decidual veins into the venous system of the uterus, as first demonstrated by John Hunter . . . The repeated examination of the uterus and placenta in their natural state, under water, and when the uterine vessels were filled with injection, having led to no conclusive and satisfactory results, it occurred to me soon after the publication of my paper in the Philosophical Ttransactions, in 1832, that the most likely means of discovering the real connection of these parts would be to examine the placenta when the vessels of the uterus were filled with their own blood and coagulated. . . . . Dr. Lee was able to satisfy himself; and Mr. Lawrence, who was present at the examination, that coagula of the maternal blood extended from some of the openings in the lining membrane of the uterus into canals formed by the deciduous membrane on the margin of the placenta."*

I have quoted this evidence of Dr. Lee because it is the strongest negative on the opinion still maintained by some that no maternal blood passes through the placenta. Let us now consider the manner in which it circulates.

John Hunter found that he could not trace either arteries or veins distinctly as vessels beyond the surface of the uterus, that they then entered into a structure which he compared to the corpus cavernosum penis. Professor Goodsir, the latest observer, finds the same appearances. Making a dissection of the uterus in the manner of Mr. Owen, he says—"In my progress I occasionally found, that when the probe was pushed along an unopened vein, its point appeared at another opening; and as I approached the internal surface of the wall of the uterus, these anastomoses of the veins became more numerous, the spaces which they inclosed presenting the appearance of narrow flat bands. At last, in introducing the probe under the falciform edges of the venous orifices, it was found to have arrived at the placental tufts, which could be seen by raising the falciform edges. *Having passed over the falciform edges, the venous membrane suddenly passed on each side to the great cavity of the placenta.* The flat bands which I have just described as the spaces inclosed by anastomosing venous sinuses became smaller, and *on entering the cavity itself, the bands were seen to have assumed the appearances of threads*, which passed in great numbers from the vascular edges of the venous opening, and from the walls of the cavity of the placenta, on to the extremities and sides of the villi and tufts of the placenta. The whole mass of spongy substance, that is, the whole mass of tufts, were in this manner perceived to be attached by innumerable threads of venous membrane to that surface of the parietal decidua of the placenta which was covered by the venous membrane. On proceeding deeper into the substance of the placenta, I perceived that, throughout its whole extent, villus was connected to villus, and tuft to tuft, by similar threads of venous membrane."*

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* Northern Journal of Medicine, January, 1846.

* Lee's Lectures, pp. 135-136.

These reticulate threads form the cavernous structure of John Hunter: thus you perceive that the first and the last inquirer into this subject are nearly agreed in their description. Professor Goodsir has used a very happy expression, "the great cavity of the placenta"—a cavity, it is true, filled up by the aggregated tufts of fœtal vessels, just as the great cavity of the peritoneum is filled up with viscera and intestines, but which cavity, nevertheless, exists. Into this cavity the maternal blood is poured by the curling uterine arteries, and from it the blood returns into the uterine veins; no fœtal blood enters into it. But to place the relation of the maternal and fœtal vessels in a clearer light, I shall quote Weber's description of their arrangement. He says, "the whole placenta, and therefore every individual lobule entering into its structure, consists of two distinct parts, the one a continuation of the chorion and vessels of the embryo, the other a continuation of the membrana decidua and vessels of the uterus. From the chorion, for instance, dendritic processes or elongations are sent out, which in small ova, about a month old, are seen so small and simple, that they are called villi, but which grow by and by into large and numerously divided stems and branches. Into each of these dendritic processes of the chorion there penetrates a branch of the umbilical artery and a branch of the umbilical vein. Both vessels divide into branches, in the same manner as the processes of the chorion in which they run. Each particular trunk, with its divarications of the shaggy chorion, form a lobe or lobule of the placenta, which is covered by the tunica decidua. To this investment many of the terminal branches of the chorion will be found to have grown. It is in the spaces between the divarications of the chorion that those vessels run which transmit the blood of the mother, and which are prolongations of the uterine arteries and veins: they penetrate in this way even to the most minute lobule of the chorion. The object of this structure seems to be, that the minute, convoluted, greatly elongated, and *extremely thin-walled capillaries* in which the blood of the fœtus is circulating, may be brought into the most intimate contact possible with the larger, but everywhere *excessively thin-walled canals*, in which the blood of the mother is flowing, that the two currents, without interfering with each other's motion, may pass each other to as great an extent as may be, with nothing interposed but the delicate parietes of each set of vessels. *The uterine arteries and veins, once they have entered the spongy substance of the placenta, do not farther divide into branches and twigs, but immediately terminate in a net-work of vessels*, the canals of which are of far too large diameter to permit them to be spoken of as capillaries, and of which the parietes are so thin, that they cannot be shewn apart by the most careful dissection. This vascular rete which connects the uterine arteries and veins with each other, completely fills the spaces between the branched divisions of the chorion, and the extremely thin parietes of the canals of which it is composed insinuate themselves at all points into the most intimate contact with the branches and convoluted masses of the capillaries of the umbilical system of vessels. This net-work of vessels, however, with reference to the passage of the uterine arteries into the uterine veins, performs the same office as a rete of true capillaries, so that it may be regarded as *a rete of colossal capillaries*.*

On a question of so much difficulty, and one which has been so much misunderstood, I have preferred giving you the descriptions of the best and most careful observers, rather than my own,—to adopt their language as being the least likely to be disputed. These quotations are sufficient to prove that there is a portion of the placenta in direct communication with the uterine vessels, which has been described by Weber as a rete of colossal capillaries; by John Hunter as a cavernous structure; and by Goodsir as a great cavity everywhere traversed and intersected by filamentous prolongations of the lining membrane of the uterine veins; that the maternal blood is impelled through innumerable uterine arteries into the great cavernous cavity of the placenta, and, having supplied the necessary nutriment to the fœtal blood, flows back through the large oblique canals that communicate with, or are part of, the uterine veins; that these venous canals and the cavernous structure is composed of a tissue of extreme delicacy; and lastly, that there is no direct communication between this maternal circulation of the placenta and that going forward in the fœtus. What, then, would be the effect if this vascular connection between the placenta and uterus were broken through? If the placenta were separated partially from the uterus? From the nature of this injury, the torn curling arteries might not pour out much blood. Any hæmorrhage must arise chiefly from the broken veins, and not, recollect, from one, but *from both* of the divided extremities. There are thus two sources from which blood escapes—1st. From the openings that communicate with the rete of colossal capillaries, by which the cavernous structure is emptied of maternal blood, to be again filled by the uterine arteries. This may therefore be considered as arterial hæmorrhage of the uterus through the placenta—2d. From the venous orifices on the surface of the uterus. The maternal blood flows from both extremities of the divided veins; in the former instance in a direct current from the uterine arteries through the cavernous structure: in the latter by regurgitation from the veins of the uterus. You can understand, therefore, not only the possibility but the certainty of the fact which the late Dr. Hamilton stated many years ago,—which Professor Simpson has since, with so much ability confirmed, but which still remains an enigma to perplex some observers who have written on the subject, when the placenta is partially detached from the uterus,—you can underderstand why blood flows from its denuded surface, and that the exposed uterine veins (or sinuses, as they are called), are not the only sources of uterine hæmorrhage. When that viscus is completely separated from the uterus, and its connection with these arteries broken off, you can also perceive that blood will no longer flow from the surface, and the only blood that can then be expressed from it, is the residue lodged in the cavernous structure.

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* Goodsir, op. cit. p. 61.

* Wagner's Elements of Physiology, p. 201-202 note.

FIG. 14.

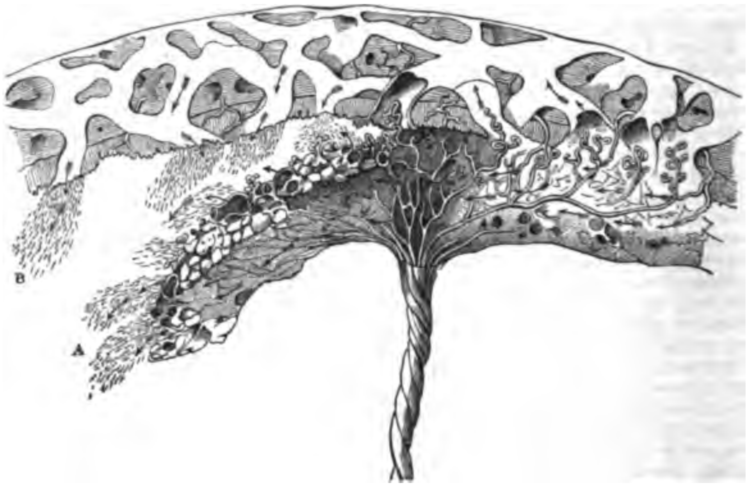

Diagram sketch to represent the utero-placental circulation.

A. Arterial current through placenta. B. Venous reflex current from uterine sinuses.

Let us next consider the natural provisions to check hæmorrhage from these surfaces when they are thus exposed by a partial separation of the placenta. The arterial discharge through the cavity of the placenta can only be controlled by coagulation of blood in the cells of its cavernous structure. This is greatly promoted by the nature of this structure, as well as by the slow progress of the circulation through it. The spiral course of the arteries lessens the impetus of the circulation, and when their tortuosity is increased by the contraction of the womb, the current of blood is arrested, and coagulation takes place. The contraction of the uterine fibres exerts a still more important influence in arresting any discharge from the exposed veins, because, as is evident from their anatomical relations, the connection between the veins is broken off by temporary valves, the flattened trunks are compressed, and regurgitation of the blood prevented. The importance, nay the necessity of this new agent, to prevent hæmorrhage from the uterus, is, I trust, sufficiently obvious to you.

Hitherto I have directed your attention to the effect of a partial separation of the placenta from the uterus, which is the most common cause of hæmorrhage before the birth of the child. Let us now observe the results of its complete detachment, such as takes place after the birth of the child, whether it be retained in the cavity of the womb, or is expelled from it. If hæmorrhage should then arise, the chief source of the discharge is the venous openings of the uterus. The slender lacerated arteries are not likely to produce the violent flooding sometimes observed; and I cannot perceive, nor can I direct you to, any other means of preventing it than by securing an efficient contraction of the uterus. But it has been objected to this principle (and the difficulty occurred to the acute mind of Gooch*), that you may have relaxation of the uterus without any hæmorrhage, and conversely a profuse flooding while the uterus is firmly contracted. It is necessary to consider how this may be, and how far it interferes with what has been laid down. It appears to me, then, that hæmorrhage must be the result of a *complete* relaxation of the uterus. In this I am happily supported by the opinion of Prof. Simpson, who remarks, "No doubt the occurrence after delivery of great and decided atony in the whole muscular system of the uterus does assuredly give rise to post-partem hæmorrhage."† But there are many reasons why hæmorrhage may not occur when the uterus is *partially relaxed*,—a very common condition after the birth of the child. For instance, you will frequently meet with cases where, after delivery, the placenta lies loosely in the cavity of the uterus, which may be large, imperfectly contracted, in that state most commonly called "relaxed," and yet no hæmorrhage follows from it. If the fundus be firmly compressed, and its regular and efficient contraction be secured, the placenta is expelled along with a greater or less quantity of coagulated blood. Why does not hæmorrhage take place?

First. Because the uterus is not *perfectly relaxed*. A slight contraction of the uterus is sufficient to raise the falciform valves, and thus partially, but not completely, close the communication between the different venous trunks. The regurgitation of blood is at least retarded, although not altogether prevented.

Secondly. The current of the uterine circulation is altered, both in its direction and force. The arterial blood is no longer drawn towards the cavernous structure in the placenta, but flows into the intercommunicating branches in the parietes of the uterus. The current of the venous blood is directed much more rapidly towards the great central trunks of the abdomen, because these vessels are now relieved from the pressure of the gravid uterus, and, by their expansion, the venous blood is drawn more strongly from the terminal branches towards the central canals.

Thirdly. The venous openings on the surface of the uterus are not at all freely exposed: on the contrary, they are often filled up and covered by fragments of the deciduous membrane, by broken tufts of fœtal vessels, and by small coagula resting within them, and acting as plugs, which, it appears to me, would be quite adequate to prevent the escape of blood when the circulation is not directed strongly towards the uterine surface.

Hæmorrhage is not, therefore, the necessary consequence of this partial relaxation of the uterus after labour: something more is required to cause regurgitation of the blood to the amount of serious flooding. We know, from the coagula expelled, that some regurgitation always takes place; but so long as they do not become causes of irritation, they are not accompanied by flooding.

Let us now examine the converse proposition. It sometimes happens that, when the uterus is strongly contracted, flooding takes place. I confess that I cannot perceive the difficulty which this fact seems to present. Is relaxation of the uterus the *only cause* of hæmorrhage? or are there other causes which may produce it? I shall mention a few: there may be more. Fragments of the placenta are frequently left behind in the uterus, which afterwards separate without any hæmorrhage occurring. But this does not always happen. One of the few fatal cases of uterine hæmorrhage that have fallen under my notice depended on this cause. A woman had been safely delivered; the placenta was expelled into the vagina, and partly protruded through the vulva; the attending midwife removed it too forcibly; hæmorrhage followed. When I saw the patient, the placenta was taken away, and had not been examined. The uterus was firmly contracted to its usual size after delivery: nevertheless, blood continued to drain from the vagina, and ultimately to increase to flooding. In spite of every means that was used, exhaustion and death took place. One was, however, omitted, in consequence of the contraction of the uterus: the hand was not passed within its cavity, which the sequel proved to have been an unfortunate omission. A small portion of the placenta, about the size of a crown, was attached to the back of the uterus near the cervix. Slight lacerations of the uterus frequently occur, and these sometimes cause hæmorrhage, although the uterus is contracted. Dr. Rigby quotes Naegele's experience of this source of flooding, as the result of a practice which we shall have again to consider. "Cases" (of placenta presentation) "have occurred where the child was turned and delivered with perfect safety, and the uterus contracted into a hard ball: in fact, everything seemed to have passed over favourably; a continued dribbling of blood had remained after labour, which resisted every attempt to check it: friction upon the abdomen, and other means for stopping hæmorrhage by inducing firm contraction of the uterus, were of no use, for the uterus *was already hard and well contracted:* the patient had gradually become exhausted, and at last died. On examination after death, Professor Naegele has invariably found the os uteri more or less torn."[*] In the case quoted by Gooch, there was an unusual excitement in the general circulation previous to labour, which he assigns as the cause of the hæmorrhage.

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* Account of some of the more important Diseases of Women, p. 332.

† Northern Journal of Medicine, January 1846.

Morbid growths also, either from the surface or in the parietes of the uterus, may maintain hæmorrhage when the uterus is contracted. Of this, however, I can give you no evidence; but, I would ask, are these exceptions—and, I think, rare exceptions—to a general rule to be considered sufficient to overturn a principle that has been founded on such clear anatomical evidence, and has been proved by daily, almost hourly, experience? Are we to say, that because hæmorrhage does not always depend upon relaxation of the uterine fibres, their contraction is a matter of no importance? If I were to lay down such a proposition, I would lead you into an error that the first case of hæmorrhage you might meet with would expose; where you would find that flooding continued while the uterus was relaxed, and that it ceased the moment the hands were placed firmly on the fundus to secure its uniform and firm contraction.

We have stated to you that relaxation of the uterus is not the only cause of hæmorrhage; neither is hæmorrhage the only cause of its relaxation. Atony of the uterus may arise from constitutional debility, prolonged labour, and other causes beside hæmorrhage; and, therefore, you can perceive why in such instances flooding may be increased by this weakened condition of the uterus, and a reciprocal effect produced; want of tone in the uterus causing hæmorrhage, and hæmorrhage increasing the atonic condition of the womb.

We have been obliged to dwell a little longer on this part of our subject than might appear necessary. I can only plead the extreme importance of a clear apprehension of the principles that must govern your practice in such a dangerous complication as hæmorrhage, and the probability that your minds might become confused by the ingenious objections that have been raised against those we have placed before you. We trust, however, that we have succeeded in proving—

1. That the anatomical relations of the uterine arteries and veins to the contractile tissue of the uterus is such that the circulation through these vessels can only be controlled by the contraction of its fibres, and that every provision is made to render even *slight* contractions of the uterus a means of moderating the force of the uterine circulation, and preventing a regurgitation of blood.

2. That the mode of controlling and arresting uterine hæmorrhage differs in this respect from that employed in general hæmorrhages, because bleeding from the general circulation is controlled by a power inherent in the vessels themselves, and independent of the surrounding tissues; in uterine hæmorrhage it is the reverse.

3. That it is quite possible that the uterus may expand without hæmorrhage taking place, and conversely there may be flooding when the uterus is contracted; but these exceptions do not invalidate the general principle *that contraction of the uterine fibres is the essential means of arresting uterine hæmorrhages.*

We have still, however, to consider the influence of another important agent over the uterine circulation, which must be taken in connection with that we have explained to you, in order to understand correctly the principles of treatment.

STAMMERING PECULIAR TO THE MALE SEX.

There is one curious fact with reference to stammering, which I do not think has been before noticed—namely, that *women* very rarely stammer. In a family of my acquaintance, this defect of the speech has been hereditary among the males for three generations, but the females have in no single instance been so affected.—*Dr. Graves' Clinical Lectures on the Practice of Medicine*, 1848.

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[*] Rigby's Midwifery, p. 259.

Original Communications.

TWO CASES OF

PURPURA, WITH ANALYSES OF THE VENOUS BLOOD.

By E. A. Parkes, M.D.
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[Concluded from p. 791.]

Case II.—Emma Skinner, æt. 18: admitted August 7th, 1848, into University College Hospital, under Dr. Thomson. A stout, very healthy looking, young unmarried woman, a servant. She stated that she had always enjoyed excellent health, and had never had any serious illness: the catamenia came on at 14 years of age; they recurred regularly every four weeks, and lasted usually seven days; there were very few clots; she had been subject for six years to epistaxis every now and then, and at times she had lost as much as four ounces of blood, but this had not occurred for some time. She had never had hæmoptysis or hæmatemesis. Up to the three months before admission she had lived well; since then, being out of place, she had fared badly: she had had meat two or three times a week; potatoes once only in three months, viz. a few days before admission; peas three or four times in the three months; no fresh vegetables of other kinds, and no fruit. She had taken daily about a quarter of a pint of milk and half a pint of porter; she had had as much white bread as she liked, a little cheese, and about half a pound of salt butter, every week. She had not been accustomed to spirits or wine, and never cared about fresh vegetables. She had never had rheumatism or palpitation of the heart. She stated that cuts on the finger bled a long time. About fourteen days before her admission she got her feet wet, and suffered from a feverish cold and dry cough; she did not think much of this, and till August 4th she considered herself in perfect health. At this time she observed a little redness and swelling on the right instep; this was succeeded, in about half an hour, by a copious eruption of purpuric spots: about an hour afterwards the same phenomena occurred on the anterior surface of the left knee, and in a few hours the spots appeared plentifully over the whole of both legs below the knees. After the spots had come out she felt a little pain in the loins, but this soon disappeared. On the 8th of August the eruption presented the following appearance: over the whole of the lower extremities, but principally below the knees, were numerous true purpuric spots, varying from the size of a pin's head to two, three, or four lines in diameter: the spots in places coalesced, and formed irregular patches of a darkish red colour, which were raised very slightly above the skin, and were not altered by pressure; in some parts of their peripheries they were abruptly defined, in others they faded gradually into the surrounding skin, and conspicuous red vessels, running into the hæmorrhagic spot, formed at these points little prolongations: the spots were not connected with the hairs, and were most numerous on the calves: there were also ecchymoses on the legs and thighs. The skin of the face, the trunk, and the upper extremities, was perfectly normal. On the previous day there had been a little pain in the hams, but that had disappeared. The gums were pale and firm; the tonsils and soft palate healthy; the lips were healthfully red; the tongue was rather red and glazed in the centre, and the papillæ at the tip were enlarged. She was carefully examined with a view to detect any latent complication. There was no cough, and the thoracic organs seemed perfectly healthy: the chest was large and well formed; the respiratory murmur was every where normal; the heart was in the natural position; the sounds were natural; the liver was in its normal limits, and not tender; the abdomen was every where supple and painless; the bowels were perfectly regular, and the pulse natural. Up to this date she stated that the urine had been clear: it was then, however, loaded with pinkish lithates, which were perfectly soluble by heat; it was acid, and had a specific gravity of 1020. The quantity was not ascertained. She had taken as medicine only a little senna, and a few doses of hydrochloric acid. She was now bled. The blood was received in a full stream into three glasses. The contents of the first were beaten; those of the second were evaporated for the solid constituents of the blood; the third bottle was put aside for coagulation. Coagulation commenced in the usual time: after twenty-four hours the separation was complete; the clot was buffed and cupped. The red particles were examined under the microscope: they appeared natural; their outlines were defined; they were not serrated; they ran together about as rapidly and as firmly as in health; they subsided also from the defibrinated blood in the usual way, leaving a clear serum. The serum was of a light green colour, and distinctly alkaline.

Sp. gr. of defibrinated blood .	1050·5
Sp. gr. of serum	1028·6

Temp. 65°. Coagulating point of the serum, 162° Fah.

Solids of the blood in 1000 parts	180·6
Water	819·4

The fibrine was estimated in two ways; from the beaten blood, and by washing the clot of the third bottle. After boiling in alcohol and ether, the amount given by the former method was 5·21, and by the latter method 4·82, in the 1000 parts; the average of the two was 5·015 (say 5) in the 1000 parts.

The solids in the serum were estimated from the serum of the third bottle. The organic constituents were 80·22, and the inorganic 7·31 in the 1000 parts. The organic constituents of the serum in 1000 of blood were, therefore, 75·31, and the inorganic 6·63 in the 1000 of blood.

The weights of the fibrine, and the solid constituents of the serum in 1000 of blood, being deducted from the solid contents of the blood, leaves 93·66 as the amount of the corpuscles.

The inorganic matters were determined in the same way as in the previous analysis. The amount of the potash was estimated both from the serum and from the dried blood. The proportion of double salt, obtained by evaporating the salts of the serum with chloride of platinum, was 3·56 in the 1000 parts: this gives ·692 of potash, a proportion slightly over the normal amount. In the second experiment the washings of the incinerated blood were treated in the same way: the chloride of platinum and potassium which was obtained was heated to redness in a platinum crucible; the chloride of potassium was dissolved out, evaporated, and weighed. By this means, from ten grains of dried blood ·07 of the chloride were obtained; this gives, for the 180·6 solids in the 1000 grains, about 1·26 of chloride of potassium, or of potash about ·796. The soluble salts in the incinerated blood amounted to 7·6 per 1000 of blood, exceeding, therefore, the soluble and insoluble salts of the serum in 1000 of blood by ·97, and the salts in 1000 of serum by ·021. The solution of the soluble salts was distinctly alkaline; it contained no iron.

The chlorides of sodium and potassium were estimated twice: the first experiment gave the proportion of 2·5305, and the second of 2·4857, in the 1000 parts. The tribasic phosphate of soda was determined once: its proportion was 1·088 in the 1000 parts. The sulphates were not noted.

The iron was determined twice. In the first experiment the residue of the incinerated blood, from which all the charcoal had been burnt off with nitric acid, was treated with boiling acetic acid; the portion unacted upon, consisting of peroxide and phosphate of iron, existed in the proportion of ·602 per 1000 of blood. In the second experiment the iron was dissolved in hydrochloric acid, precipitated as peroxide, washed, dried, and heated to redness: the quantity of the peroxide was ·586 in 1000 parts of blood.

The lime was precipitated both as oxalate and as sulphate; but want of time prevented me from carrying out this delicate analysis with sufficient accuracy: the lime was certainly in small quantity, and below ·08 in the the 1000 parts.

The general summary of this analysis may be given as follows:—

Fibrine	5
Organic solids of serum . .	75·31
Inorganic solids of serum . .	6·63
Red particles	93·66
Water	819·4
	1000·00

Chlorides of sodium and potassium	2·5305
Phosphate of soda	1·088
Peroxide and phosphate of iron	·602
Lime (uncertain, but below)	.08

The chief point of interest in this analysis appeared at first to be, the great increase in the fibrine. As I was almost certain that there was no latent inflammation, and as there were no rheumatic symptoms, it seemed almost necessary to consider it attributable to the purpura; and yet I could not conceive that, in the first well-marked case, the increase in the fibrine should not have existed if it was an essential part of the disease. The difficulty was, however, completely explained by the progress of the case. In other respects this analysis agreed with the first; the solid contents generally were lowered. Becquerel's average for healthy women is 208·1; and although the normal amount is not very well determined, yet in this case, in a particularly strong young woman, of sanguineo-lymphatic temperament, I should have anticipated that the solid contents would have been at least 195 or 200 parts in the 1000, instead of 180. This would raise the corpuscles to nearly 104 parts per 1000, which is quite within the limits of health. The organic contents of the serum are also within the healthy female range, as the average of the albumen is higher than in males. The organic constituents in this case as in the former preserve their normal relation to each other, with the exception of the fibrine.

The most marked change in the inorganic constituents consisted, as in the former case, of an increase in the quantity of iron. With only 95 of corpuscles, the iron should have been reduced to about ·4, whereas it amounted to ·602 in the 1000 parts. The increase, however, was not so great as in the analysis of the male blood. The potash was in normal quantity; and, as the patient had taken none as medicine, it may be considered certain that the appearance of purpura is not coincident with deficiency in potash. The salts, taken together, are not particularly altered, either as to increase or deficiency; there was, however, still the difference between the quantity of the salts of the serum and those of the whole blood. The amount of the soluble phosphates was over that of the first analysis; but these seem to vary, as the chlorides, so much with the season of the year, the state of the system, and even with the time of the day, that this is of little consequence: there was also a possible inaccuracy in the first analysis.

On the 10th of August the purpuric spots were disappearing in the usual way, leaving the dirty yellow stains of absorbed blood. The urine continued acid, with a plentiful deposit of pink lithates.

On the 14th she experienced some rheumatic pains. On the 15th the eruption had disappeared altogether, but she was suffering from a sharp, well-marked attack of articular rheumatism, for which Dr. Thomson found it necessary to treat her actively. During this attack the urine became intensely acid, and ceased to deposit lithates. Owing to particular circumstances, it was not analysed.

On the 19th the rheumatism had been subdued, and she began to take tonics. During convalescence, the deposit of lithates returned, as if they had again lost their solvent. A week afterwards she left the hospital perfectly well.

I do not think there can be a doubt but that the increase in this fibrine was connected with the rheumatic diathesis. The existence of the diathesis had been, in fact, already suspected, partly from the increase in the fibrine, which was not dependent on inflammation, and partly by the copious deposit of lithates, which is certainly not necessarily a part of purpura. As increase in the fibrine is decidedly a part, though only a part, of the rheumatic diathesis, it is an interesting point that this was proved to exist for more than a week before the usual and more obvious symptoms of the disease proclaimed themselves. It would seem to indicate, as far as an isolated fact can do so, that the hyperinosis is even a more important element in the production of rheumatism than has been supposed: it is prior, at any rate, to the local affections.

In concluding the account of these two cases with a few remarks, I am anxious not to have it supposed that I wish to discuss the pathology of purpura: our knowledge is as yet insufficient to venture on such a problem. I have wished merely to add something to the information already collected respecting a single point, viz. the chemistry of the blood. This, however, is only a small portion of the humoralism which, with its inseparable solidism, must be brought to bear on the question of the intimate nature of the disease; yet there are some points in these cases which possess a certain importance, and which may be, not improperly, a little more discussed.

In both these cases the patients had been badly and insufficiently fed; and although it is by no means proved that purpura is dependent on errors in diet, yet as scurvy, a disease usually considered as allied to it, clearly is so, such a dependence may be considered as not improbable; but, if so, the first case proves that the deficiencies of diet must be very different from those which cause scurvy, as the patient appeared to have had an unusual quantity of fruits, and had not been insufficiently supplied with potatoes. In the second case there had been, as in cases of scurvy, a deficiency in fresh vegetables. Certainly, in all the cases which have occurred to me among the out-patients at University College Hospital, there has been deficiency in the quantity, and want of variety, in the food. At the same time I cannot but think there must be some other cause than dietetic errors; as, to draw an example from my own limited experience, I have witnessed in India several cases of Morbus Maculosus Werlhofii (which has not yet been distinguished from purpura hæmorrhagica) in soldiers who had been well nourished, and who were unavailingly treated with tonics, generous diet, and fresh vegetables, but were cured with tolerable certainty both by turpentine and by creosote — medicines which have, I presume, no nourishing power.

Although the pathology of the disease is not now under discussion, it may be permitted to inquire into the probable changes in the blood, considered merely as symptoms of the disease. It appears almost certain, from the analyses already made by Routier, Garrod, Frick, &c., that purpura coexists both with increase and with diminution of the fibrine; and that alteration either way is not essential to the disease, but generally depends on coincident conditions, as in my second case on the rheumatic diathesis. I say generally, because, in a long-continued case, I can quite conceive that there might be diminution or increase, with no other disease except purpura, merely from constitutional changes not proper to purpura, though induced by it. The passage of the red particles from the vessels, as it is not affected by changes in the fibrine, seems also not to be attributable to alterations in the albumen, or in the other constituents of the serum. These appear altogether natural: their quantity is normal; no change in properties has been discovered; and in other diseases in which there are great changes in the constituents of the serum, the red corpuscles do not exude from the vessels. It can also hardly be supposed, reasoning from the condition in other diseases, that the mere diminution of the solids of the blood should be the cause of the hæmorrhage, though it may be an accessory assisting condition. By the principle of exclusion, therefore, we are impelled to look upon that part of the blood which is chiefly poured out, viz. the red particles, as the constituent which is probably most diseased; and possibly this accords with the analyses, which point to an alteration in that ingredient which seems to be essential to the structure of the corpuscle. In the two analyses made by Frick, he found the iron considerably increased, and the lime diminished. With the first observation my analyses accord; the second I can neither confirm nor disprove. It is certainly an observation for which no analogy had prepared us, that the iron should be increased in a hæmorrhagic disease; and I must confess, although this has been found to be the case in four analyses, I should be glad to see the point investigated by other observers. It remains to be seen, also, whether the excess of iron is really combined with the corpuscles: this point I have hitherto assumed. In addition to this alteration in the iron, it appears as if there was an excess of salts in the fluids of the corpuscles over those of the serum,—indicating, it may be, in this particular also, changes in the ingredients of the red corpuscles. But as to the way in which these changes, supposing them correctly indicated, act in causing the hæmorrhagic spots, it is of course impossible to say. If purpura be a disease produced by insufficient food, we should rather expect some ingredients of the blood to be defective, than that any should be increased in amount. Perhaps, after all, the increase of the iron in these four cases has been a mere coincidence, and the changes in the blood are still to be determined. But I am indisposed to push farther, speculations so desultory, and at present so profitless. I regard them as of little value, and I have wished in this paper simply to contribute something towards the mass of details which must be collected before correct generalizations can be made.

3, Upper Seymour St., Portman Square,
Sept. 23, 1848.

SOME OBSERVATIONS ON THE

INTESTINAL MUCOUS MEMBRANE.

By C. Handfield Jones, M.D.
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Since the appearance of Professor Goodsir's invaluable memoir on the structure and functions of the intestinal villi, several observers have followed in the same line of inquiry, but no important addition has been made to our knowledge of the process: the chief new fact is that ascertained by Weber and Kuss, that the shedding of the protective epithelium of the villi is not essential to the performance of their absorbing function. Having lately examined the intestinal mucous membrane carefully, both during the time when absorption is proceeding and when it has ceased, I venture to record my observations, in the belief that as such inquiries are multiplied, the truth will become more and more clearly developed.

I would in the first place ask attention to the material, which forms so large a part of the substance of each villus, filling up with the capillaries and lacteals the whole space enclosed by the limitary membrane. This material consists of granular matter and nuclear corpuscles; these latter seldom attaining the perfection of ordinary nuclei, and being sometimes rather indistinct. In the quiescent state, the contents of the villus are semi-transparent, and there is never any trace of complete cells being found in its interior. Now this granular basis, which is so conspicuous in the villi, appears to belong to a great stratum of similar material, which is found underlying the basement membrane in the whole extent of the intestinal canal: this has not been before described, so far as I know, and I must therefore dwell for a moment upon it.

It is best seen in the mucous membrane of the large intestine, when a piece of this is dissected off, moistened with acetic acid, and viewed with its free surface uppermost. The orifices of the Lieberkuchnian follicles are very distinct; and if, as is usually the case in the human subject, the epithelium has separated, the basement tissue will be seen sharply defining their margins, and marking the whole space intervening between contiguous follicles. In such specimens it is very evident that beneath the basement membrane, and immediately in contact with it, there exists a layer which resembles exactly in its constitution that contained in the interior of the villi, consisting, therefore, of nuclear corpuscles and granular matter. This layer may be named the "*substratum*" of the mucous tissue. In the small intestine it is not so easily seen, as the surface is so thickly covered with villi, but by a careful examination its presence may be satisfactorily ascertained. I have never seen any trace of it in the stomach; the tubes I believe lie too closely packed together to leave room for it to exist. This substratum is the seat of the black discolouration, which is so common in the intestinal mucous membrane, and which is sometimes supposed to indicate a state of chronic inflammation. In several examinations, however, which I have made, I have found it to depend simply on the deposit of black granules in the "substratum," the tissue retaining all its healthy characters. The granular basis of the villi is often similarly affected; and this is a further proof of the statement I have made, that the contents of the villi are continuous with, and form part of, the "substratum." The thickening of the mucous membrane which occurs in dysenteric inflammation affects principally the layer we are now considering: it is greatly increased by infiltration with a plasma passing into imperfect cellular forms, and, the basement membrane being destroyed, constitutes of itself almost the sole representative of the mucous tissue.

Returning now to the examination of the villi, it may be remarked that in their quiescent state they are semi-transparent, so that their structure can be readily discerned. During the period, however, of their activity, they become more or less opaque, and when a number of them are examined under the microscope, it is evident that the opacity does not affect only the bulbous extremity, but extends in the majority throughout the greater part of their length. In a recent inspection of the villi of a dog, killed while the lacteals were filled with milky chyle, I observed distinctly that the apex in some was the most opaque part: in others, the apex was comparatively clear, and the opaque matter was diffused throughout the body of the villus; in others, again, the whole villus from base to apex was almost equally opaque in every part. From these facts, therefore, I think it must be concluded, that it is not only the extremity of a villus (which is by no means always or often bulbous) which exerts the power of active absorption, but that the whole, or nearly the whole of these processes,—that is, so much of their length as can come freely into contact with the chyme,—fulfils a similar function. In stating this, however, it may be admitted that the apex, as most exposed to the material on which it is to act, is probably the seat of the most active absorption. If, now, we proceed to examine the contents of a villus during its period of activity, we shall find the above conclusion further confirmed: for the vesicles which Prof. Goodsir describes as existing at the apex, and which he regards as interstitial cells, seem, so far as I can determine, to be nothing more than large oil drops, and present no appearance which could lead one to consider them as actual living structures. They are often very small, often absent; they are just like oil drops in other situations, and they resemble exactly, except in size, the larger drops which collect occasionally in the blind extremity of the lacteal canal of the villus. The opacity of an actively absorbing villus seems almost entirely to depend on the quantity of oily matter, in a state of minute division, diffused through its granular basis; and this oily matter, so far as I can determine, is quite in a free state, and is not, I believe, at any time contained in perfect cells.

I have given much attention to ascertain this point, and I feel quite assured that in the great majority of villi, which are manifestly actively absorbing, no cells are to be discovered, either at the apex or throughout the entire length: all that can be seen is a mixture of oily and granular matter, which obscures very greatly the nuclear corpuscles, often so evident in the quiescent condition of the organ. Cells do, indeed, occur occasionally in the substance of the villi, but they are not at all constantly situated at the apex: they are never more than two or three in number; they are but seldom present, and do not appear to have any relation to the absorbing process. But admitting these observations to be correct, does it then follow that the beautiful leading idea of Mr. Goodsir is to be given up, and that we must resort to our former complete ignorance of the nature of chylific absorption? Not so, surely;—it is well known now that the formation of perfect cells is by no means to be regarded as essential to the exercise of the energy of nuclei, those fundamental and efficient parts of almost all cell formations; it is also known that the formation of perfect cells indicates a certain degree of permanence in the structures so formed, and that their contents are destined to be retained for a period to undergo some elaborating change, not to be immediately yielded up; while, on the other hand, the non-completion of cells indicates that the process is of a rapid character, and not intended to produce any considerable change in the material acted on. Remembering these facts (of the general truth of which there cannot be, I think, much doubt), it will be admitted, perhaps, as highly probable, that the nuclear corpuscles of the granular basis of the villi exert an attraction on the chyme by which they are surrounded, and draw it continually into the substance of the villus, from whence it is rapidly conveyed away by the efferent lacteal. The function of the villi, it is pretty certain, is one not of elaborating but of simply absorbing; it needs not, therefore, that perfect cells should be formed, all that is required is that the nuclei should exert an attractive force, which there is abundant reason, from the analogy of their behaviour in other structures, to believe that they possess. I may adduce here an observation made on the mesenteric gland of a dog killed at a time when chyle was traversing its structure abundantly.

The general disposition of its elements seemed to correspond pretty closely with the account contained in another of Mr. Goodsir's well known papers; but it was perfectly evident that though a few complete nucleated cells were occasionally to be seen, yet the great mass of the gland consisted of mere nuclei, not exhibiting the least tendency to undergo development into cells, but surrounded by, and mingled with, an abundant quantity of the molecular base of the chyle. Now, as we have good reason to believe that the lymphatic and lacteal glands exert an action upon the fluids which are conveyed to them by the afferent vessels, the observation above recorded (which I have more than once repeated) seems to prove that nuclei, *as such*, effect whatever changes are produced in the chyle during its passage through the gland; while, in this instance, as in the prior act of absorption by the villi, the brief and rapid character of the process seems to forbid the development of complete cells.

I may next remark that my observation leads me to agree with Professor Weber that the shedding of their investing epithelium is not *necessary* to enable the villi to perform their function. I have certainly seen the villi clad with their epithelium when the lacteals have seemed to be everywhere filled with chyle: however, I think there can be little doubt that, when the absorbing process is most actively performed, the villus does throw off its protective covering; certainly this is the case in a great number of instances.

I have observed a curious circumstance in the condition of the villi, which has been before described, I believe, by M. Lacauchie: this is, that they are capable of varying very considerably, both in length and width, the variation in the two directions taking place inversely. In some I recently examined during their period of activity, I found their length was no more than from 1-24th to 1-18th of an inch, while their width was from 1-112th to 1-84th of an inch; their margins were wavy, and their apices often notched: in fact, they gave one completely the idea of being contracted in the longitudinal direction: the piece which presented this condition of the villi was macerated a little time in water, and then, by gentle stroking with a camel's-hair pencil, the villi were made to elongate themselves very considerably, at the same time diminishing in width to one-tenth their former diameter. In another part of the intestine of the same animal, where there were numerous tæniæ, the villi were all in the state of elongation; and recently, in another dog, the villi of the small intestine near the ileo-cæcal valve, which the chyme, in its progress, had not yet reached, were in the same state; while those higher up in the canal, which were opaque with absorbed matters, were contracted. How the retraction and thickening of the villi is effected I can form no idea: they possess no contractile tissue as an element of their structure, and the distension of their capillary plexus with blood would produce rather a contrary effect. Whatever be the mode in which this remarkable change in their form is produced, I can scarcely join M. Lacauchie in believing that it is at all concerned in aiding the propulsion of chyle. I have observed the curious circumstance mentioned by Professors Weber and Goodsir, respecting the epithelial particles of the villi, viz. their becoming filled with oily molecules while chyme is traversing the intestine: this may occur not only when they are shed, but even while they are adhering to the villi. It is also worth remarking that the nuclei of these particles, which are usually very evident, disappear as they become filled with oily matter; so that it does not appear as if the particles were passively infiltrated, but exerted some preparatory action on the chyme before its absorption by the nuclear corpuscles of the villi.

I may next offer a few observations on the structure of the solitary and agminate glands of the intestine: these I have studied principally in the human subject, but have also examined them in the rabbit and dog. The excellent account given by Dr. Todd, in his Gulstonian Lectures, of these glands, contains all that is certainly known respecting them: there are, however, a few points regarding their condition in the human subject, and their relations to the constituent parts of the mucous tissue, which may perhaps be further elucidated. In the cæcum of the human intestine, the mucous membrane, when dissected off and treated with acetic acid, exhibits a number of small, opaque, whitish spots, varying somewhat in size: these are the solitary follicles; they are most numerous in the vermiform appendix, but occur throughout the whole of the large intestine; their central part often appears more transparent than their peripheral, giving the idea of an orifice in this situation. If a vertical section be made through one or more of these spots, it is then clearly seen that they consist of masses of nuclear granules, which for the most part, I think, are solid, not including a distinct cavity, and not contained in any definite follicular envelope: they lie at various depths; the larger are in contact with the surface, the mucous membrane, with its rows of vertical follicles, having disappeared above them; the smaller lie unquestionably beneath the mucous surface, and, I feel quite assured, have no orifice of communication by which their contents might escape into the intestinal cavity; even pretty strong pressure does not evacuate the contents of the smaller masses, while it sometimes produces this effect on the larger, which more closely adjoin the surface. The form of these masses varies a good deal; often they are considerably flattened, usually, however, more or less globular—their upper portion being always convex and tending to approach the surface; when it reaches this, the mass appears to become more or less completely evacuated, and a shallow depression may then result; this, however, is but rarely seen. In the cæcum of the dog the solitary glands are more or less prominent on the surface, and exhibit a very distinct appearance of a central orifice. When macerated in acetic acid, they appear as circular spots about the size of a large pin's head, rather flattened, and with perfectly defined margins. In vertical sections through the central orifice the mucous membrane is seen to dip down and become gradually thinner; sometimes it appears to be perforated at the bottom of the depression; at others, is continued plainly across. The gland itself consists of a solid mass of nuclear corpuscles, with a little granular matter: it is contained in a kind of capsule, which seems to belong to the submucous tissue; at the bottom of the depression, the mass comes in contact with the thinned mucous membrane, if it exists, or with the orifice if it be absent, but can rarely be made to escape even by strong pressure. It does not appear that these glands can be regarded as true follicles: their capsule is not continuous with the basement membrane; their contents are not epithelial particles lining the wall, but a solid mass of nuclei; and, lastly, the existence of an orifice to them does not seem constant, whether evidence of it be sought for by minute examination or by observing the effect of pressure upon their mass. In the rabbit the long and wide appendix cæci has its mucous lining greatly thickened by a layer of masses consisting of nuclear granules: these are of elongated conical form; their apices reach to the surface, and lie in fossulæ formed by septal folds of mucous membrane; over their surface a capillary plexus is spread, supplied by long vessels which run up from below: they appear to be quite solid, and their apex is certainly not perforated, but in some instances appears to be invested by a distinct homogeneous membrane. In all these cases it is worthy of remark, that the masses of nuclear granules are affected in a peculiar manner by acetic acid; instead of rendering them transparent, it makes them much more opaque, so that their outlines become extremely distinct even to the naked eye: this circumstance, as well as the marked difference between their contents, and the epithelium of any glands or follicles, is very characteristic of them, and tends to prove, I think, that they are not mere follicular involutions of the mucous surface, but superadded structures designed for some special but unknown function.

The Peyerian patches seem to be, as usually considered, merely aggregations of solitary glands; this appears not only from their structure, but also from the circumstance that in the appendix cœci of the rabbit (a part which is always the chosen seat of solitary glands), they are so closely set as to constitute one vast patch in all respects similar to the patches of the small intestine. In the human subject they are in the healthy state, but moderately developed, and from that very circumstance are capable of being examined more satisfactorily. When undistended, the margin of a patch is very slightly raised; but if held up to the light, the mucous membrane at that part is seen to be much more opaque than it is in the parts around. The surface of a patch generally presents slight depressions, with often blackish spots or streaks in their centre: these depressions are not open mouths of follicles, but seem to be produced by the absence of the villi from those parts of the mucous surface. Occasionally there is a slight prominence in the middle of each depressed spot, but this never reaches the level of the surrounding villous surface, so that the appearance of a depression still remains. In vertical sections I have repeatedly seen the aggregated masses of nuclei precisely similar to those constituting the solitary glands, lying in the "substratum," and manifestly subjacent to the basement tissue, at a varying depth from the surface. Groups of villi stand up pretty thickly from the intervening portions of mucous membrane, while immediately over the aggregated masses, the basement membrane, often beautifully distinct, passes as a plane surface, or rises into a few low ridges. The examination of these structures is facilitated by treating the specimen with acetic acid, which renders the masses more opaque, and thus defines their extent and situation more exactly: the form of the masses varies somewhat; often it is rather flattened, more commonly, however, globular or conoid, the apex being directed towards the surface. Most usually, I think, the outline is ill defined; there seems to be no exact limit to the mass, but it blends gradually with the material of the "substratum," in which it lies, and of which it seems to form a part: sometimes this is so much the case that the mass is scarcely distinguishable as an independent part; in other instances the outline is better preserved, and there is some trace of an investing fibrous capsule, but never have I seen anything to indicate that the masses were contained in follicular offsets from the mucous surface. The aggregate masses consist of the peculiar nuclear corpuscles before mentioned, with a small quantity of granular matter; black matter is also very commonly present in them, producing the blackish dotting of the surface of the patch before alluded to. I have occasionally observed some trace of a cavity in the aggregate masses, but am inclined to consider them for the most part as solid. In the dog the patches are much more thickly covered with villi than in the human subject: the masses have generally a well-marked conical form; some are, however, rather flattened, and lie manifestly beneath the mucous surface, not having yet attained their full development. There does not appear to be any trace of an orifice at the apex of these masses; on the contrary, it is perfectly even, well-defined, and not unfrequently invested by an homogeneous membrane. In the rabbit the mucous membrane is very greatly thickened in the situation of the glands, the conical masses are very large, and lie in distinct cavities, enclosed by narrow strips of mucous membrane, which rise into beautiful wavy folds. The apices of the conical masses are well defined; they are surrounded with an atmosphere of nuclear granules (similar to those of which they themselves are made up), which nearly fills up the cavities in which they lie; and further, in injected specimens it is seen that a capillary web is spread over their apices, which seems to indicate, in conjunction with other facts, that the contents of these masses are not intended to be discharged, and that in fact they are rather of the nature of papillæ than follicles.

I cannot offer even a conjecture as to what the function of these curious structures may be, only I can hardly think that they are destined in their natural state to serve as excretory organs, for which purpose surely their construction is but little adapted. The changes they undergo in fever are just such as one would expect from a consideration of the details now given: consisting almost entirely of masses of nuclei, they would attract the matter to be eliminated with peculiar energy, would rapidly enlarge, by development of their nuclei, into cellular forms, reach the surface, and burst, forming thereby the ulcerations so frequently met with.

54, Sloane Street, Sept. 26, 1848.

P.S. In the foregoing remarks, I have not spoken of the solitary glands as existing in the small intestine. I do not mean to deny their existence, but it has never occurred to me in a good many examinations to discover them; at least, such as are to be seen in the large intestine. I have, however, examined instances of what are commonly called enlarged solitary glands, in the lower part of the ileum; one of which I may mention. A man died suddenly, while in apparent health, having hypertrophy and dilatation of the heart, with diseased aortic valves: the lungs were free from tubercles; the mucous lining of the lower part of the small intestine presented a great number of small elevations of varying size, much resembling those which are found in cases of typhoid fever; these by microscopic examination were found to consist of masses of nuclear corpuscles and granular matter, not contained in definite capsules, and evidently subjacent to the basement membrane. In the smaller ones, the nuclei were feebly formed, rather indistinct, and mingled with a good deal of granulo amorphous matter. In the larger, the nuclei were very perfect and well formed, and there was but little granular matter.

Acetic acid affected the masses just as it does the solitary glands, rendering them more conspicuous by their opacity in the surrounding transparent tissue. It seems impossible to believe, that in this and several instances the prominences ("boutons," as they are called by the French) are developments of naturally existing structures. I feel no doubt that they are simply deposits of a peculiar material in the substratum of the mucous tissue, quite analogous to pimples or pustules of the skin, and like them, capable of disappearing by absorption.

MEDICAL STUDENTS FROM THE MAURITIUS.

MR. JEAN FELIX PELLEGRIN, a native of Mauritius, passed his examination at the Royal College of Surgeons, on the 5th inst., and is the first student from that colony who has obtained the honour of an English diploma.

ON

NARCOTISM BY THE INHALATION OF VAPOURS.

By JOHN SNOW, M.D.
Vice-President of the Westminster Medical Society.

[Continued from page 616.]

PART VII.

On the administration of chloroform—Objections to giving it on a handkerchief—Description of an apparatus.

THE conclusion generally arrived at by those who have commented on the fatal cases of inhalation of chloroform, is one in which I do not agree. It has usually been concluded that there is danger necessarily attending the use of chloroform, and that it should therefore be confined to serious operations. Now a great part of the advantage attending the use of an anæsthetic consists in its preventing the patient's dread of the operation; but if the immunity from pain could only be obtained by incurring a danger of sudden loss of life, there would be a new source of fear. Many patients, again, have been readily induced to submit to a necessary operation, through the prospect of undergoing it without pain, who, otherwise, would have withheld their consent either altogether or till the prospect of a successful issue were much diminished. In this way, there is no doubt, many lives have been saved. But if the patient had to choose between pain and a risk, however small, of sudden death, this ready and early consent could not be expected. It is therefore necessary, for the sake of patients undergoing capital operations, to inquire whether there is any means of preventing the pain, which is free from danger, and to employ that means in preference to another. And if the skilful and careful administration of chloroform were really attended with danger, I would recommend that it should not be resorted to in any case; for we have in ether a medicine capable of affording all the benefits that can be derived from chloroform, and which never caused accidents of the kind we are considering, although it was the first used,—when the knowledge, consequently, of producing insensibility was less.[*]

There is, however, no reason to doubt that chloroform is, when administered with care and a sufficient knowledge of its properties, unattended with danger,—or, at all events, with a degree of danger so small that it cannot be estimated;—not greater, for instance, than attends the minor operations of surgery, or the taking of ordinary doses of medicine. When the vapour of chloroform is well diluted with air, it is as safe as ether; and, as it possesses some minor advantages over it,—such as being less pungent, and therefore more easily inhaled,—not leaving its odour in the breath for some time afterwards,—being more portable, on account of the smaller quantity required, and producing excitement less frequently in the early stages of its effects,—its use, by all medical men who are perfectly conversant with its effects and mode of administration, is quite allowable in every case in which there is much pain to be prevented.

But, without proper precautions, the inhalation of chloroform is undoubtedly attended with danger, on account of the rapidity of its action when not sufficiently diluted with air, and, also, on account of its effects accumulating for about twenty seconds after it is discontinued, which accumulation would be most formidable, if the air taken into the lungs just before, were highly charged with vapour. The exhibition of ether is not attended with this kind of danger, even if but little precaution is exercised, and the symptoms caused by both vapours being the same, I entirely agree in the recommendation of M. Valleix, physician to the Hôtel Dieu, that medical men who have not practised anæsthesia should first study it from the action of ether.[*] This advice will, perhaps, not generally be followed; but if practitioners are inclined to run any risk in administering chloroform before they are well prepared, they must recollect that they are not doing it for the sake of preventing the severe pain and shock of the operation, but only to avoid the stronger odour, more pungent flavour, and other little inconveniences of ether.

It is quite obvious, that by merely placing the chloroform on a handkerchief or sponge, and getting the patient to breathe through it, we can have no control over the quantity of vapour in the air breathed. If the handkerchief be not applied close to the face, enough vapour will, most likely, not be taken to cause insensibility; and, if applied closely, the air breathed will probably be almost saturated, and that at a rather high temperature. In three out of the four fatal cases we have considered, the chloroform was administered on a handkerchief; and in the fourth case—that in America—no attention was paid to the proportions of vapour and air: the only endeavour appeared to be to make the patient insensible as quickly as possible. The handkerchief is advocated by some practitioners, on account of its supposed simplicity; but whenever I have had occasion to give chloroform in this way, I have felt it to be a very complicated process, on account of the difficulty of getting even an approximative knowledge of what I was doing, by the best calculation I could make.

Before administering chloroform, the surgeon should have as clear and distinct an idea of its vapour as of the blade of his knife; and as this will be read by students as well as practitioners, I shall be excused for introducing a brief explanation of the nature of a vapour. In a popular sense, this term is sometimes applied to the minute globules of liquid suspended in air, which result from the condensation of a vapour that has been mixed with it, as in what is called the steam or vapour from the spout of a teakettle. But chloroform cannot be taken in this form; if it were attempted, spasm of the glottis would ensue. A vapour is a dry aeriform condition of a substance differing from a gas only in the circumstances of temperature and pressure under which it takes the liquid form. The vapour of chloroform has no separate existence under natural circumstances of pressure and temperature, or in any form of inhaler. No patient ever took any of it in this way, or ever will, and this is equally true of ether.[*] Chloroform requires a temperature of 140° Fah., under the ordinary pressure of the atmosphere, to make it boil, and enable it to exist in the state of undiluted vapour; but mixed with air, it may have the form of vapour at inferior temperatures: the quantity that may exist in the air varying with the temperature directly as the elastic force of the vapour. The chloroform, in fact, that a patient breathes, is dissolved in the air, just as water is always dissolved in it, even in the driest weather, and the patient breathes his air with two vapours instead of one—the new vapour being, to be sure, in much the largest quantity. As a proof that these physical considerations are worthy our notice, I may state, that if chloroform had boiled at 180° instead of 140°, its solubility and other properties remaining the same, the four fatal cases we had occasion to discuss would not have occurred.

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[*] I am aware that ether was thought by some to have caused death in two or three instances in which the patients did not recover from the operation, but died two or three days afterwards; and in one of these instances a coroner's jury returned a verdict to that effect; but I believe the only instance on record in which the inhalation of ether was fatal, was one that occurred in France (see Gaz. Médicale, 4 Mars, and MED. GAZ. p. 432, last vol.), and in that case the inhalation was continued without intermission for ten minutes, although alarming symptoms were present nearly all the time; and it is probable that the result was owing as much to some defect in the inhaler, which limited the supply of air, as to the effect of ether.

[*] See MED. GAZ. p. 305, present vol.

The following table shews the result of experiments I made to determine the quantity of vapour of chloroform that 100 cubic inches of air will take up at various temperatures:—

Temperature.	Cubic inches.
50°	9
55	11
60	14
65	19
70	24
75	29
80	36
85	44
90	55

The most perfect way of giving a vapour to animals is that adopted in the experiments I have related, the breathing not being interfered with, and the strength of the vapour being accurately known. This method is not applicable to patients, but our endeavour should be to approach to it as nearly as we conveniently can. The apparatus I employ is delineated in the subjoined engraving.[*] (See next page).

a. Outer case containing water bath, screwed on—*b*. Cylindrical vessel into which the chloroform is put; it is lined with a coil or two of bibulous paper up to the point *c d*. A cylindrical frame which screws into *b*—it has apertures at the top for the admission of air, and its lower two-thirds are covered with a coil or two of bibulous paper, which touches the bottom of the vessel *b*, except where the notches *e* are cut in it. *f*. Elastic tube. *g*. Expiratory valve of face piece; the dotted lines indicate the position of this valve when turned aside for the admission of air not charged with vapour. *h*. Inside view of face-piece, pinched together at the top to adapt it to a smaller face. *i*. Inspiratory valve.

When the patient inspires, the air enters by the numerous and large apertures in the top of the inhaler, passes between the two cylinders of bibulous paper, wet with chloroform, through the notches in the bottom of the inner one, then up the centre of the apparatus, still in contact with the paper, and through the short tube, which is three-quarters of an inch wide in the inside. The air thus gets charged with vapour, whilst it meets with no obstruction whatever till it arrives at the inspiratory valve of vulcanized India-rubber, which weighs but a few grains, and rises at the beginning of the slightest possible inspi-

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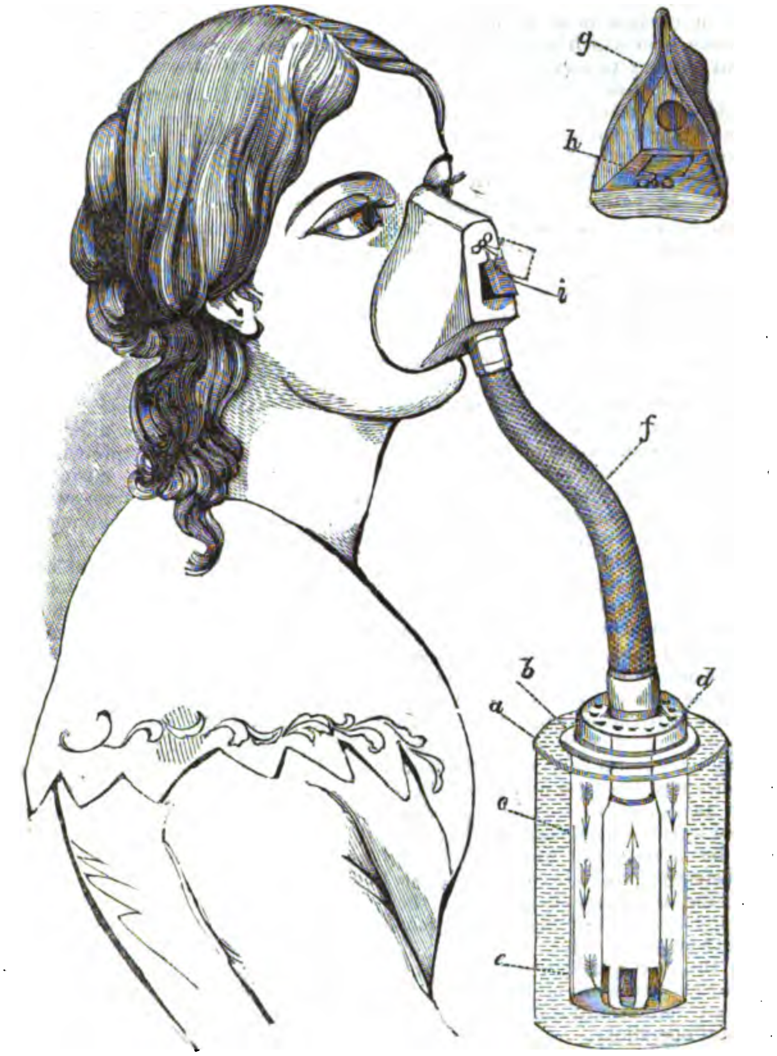
[*] Many practitioners, judging from their writings, seem to have very incorrect notions concerning these vapours. For instance, M. Roux, the eminent French surgeon, in objecting to the use of the handkerchief in the Academy of Sciences, says—"In this manner the patient inspires the chloroform vapour without air. (See MED. GAZ. present vol. p. 214). Soon after the inhalation of ether was introduced, two veterinary surgeons in London endeavoured to try its effects on a horse in a pure state, and prevented the ingress of air. As they did not make the ether boil, the animal could get no vapour, except what combined with the little air that might get in through the leakage of the inhaler. The horse in fact was burked. The efforts at respiration were prodigious,—it shortly died,—and the heart and diaphragm were found to be ruptured. (See Lancet, April 10, 1847). This experiment has been recently quoted in a pamphlet opposed to chloroform in midwifery, as a proof of the injurious effects of ether.

[*] It is made according to my directions, by Mr. Matthews, 10, Portugal Street, Lincoln's Inn Fields.



ratory movement. The cylinder of thin brass in which the chloroform is placed is inclosed in a larger one containing water, which, by supplying the caloric that is removed in the vaporization of the medicine, prevents the temperature from being lowered. It also prevents it from being raised by the warmth of the hand, and thus keeps the process steady. If the temperature of the water be 60°, each 100 cubic inches of air passing through the apparatus might, according to the table above, take up 14 cubic inches, and become expanded to 114 cubic inches, when it would contain a little more than twelve per cent. by measure. This is supposing it became quite saturated, which, however, it does not, and ten per cent. of vapour, or eight minims of chloroform, is probably as much as the air contains. It is not desirable, however, to give it to the patient even of this strength, and the expiratory valve of the face-piece* is made to move to one side, so as to leave uncovered more or less of the aperture over which it is placed, and admit pure air to mix with and dilute that which has passed through the inhaler. By means of this valve, the vapour may be diluted to any extent, whilst, at the same time, one may have a knowledge of the strength of the vapour the patient is breathing; not exact, to be sure, but practically of great value. The valves in this face-piece act properly, and close of themselves, in every position in which a patient can be placed, except on his face, and even in this posture they will act if the head be turned on one side.

The position of the patient and inhaler have nothing to do with the specific gravity of the vapour, as some have supposed. If what the patient breathes were as heavy as the pure vapour, it would impose no appreciable labour on the muscles of respiration to raise it to the mouth; and although the vapour of chloroform is four times as heavy as atmospheric air, it does not increase the specific gravity of the air the patient inhales by more than one-fourth; and, indeed, air charged with vapour of chloroform is not so heavy as when charged with vapour of ether at the same temperature. The most convenient position of the patient taking chloroform is lying on the back or side, with the head and shoulders a little raised, as he is then duly supported in the state of insensibility, and can be more easily controlled if he shall struggle whilst becoming insensible. But there is no objection to the sitting posture, when that is most convenient to the operator.

In the next paper, I shall enter on the details necessary to be observed in giving chloroform in different kinds of surgical operations.

[To be continued.]

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* It is the same face-piece I used in giving ether for three or four months before Dr. Simpson introduced the use of chloroform. By the removal of the peculiar expiratory valve, which is its most important part, and the introduction of a sponge, it has been made to constitute a chloroform inhaler by more than one practitioner. These inhalers are, undoubtedly, better than the sponge or handkerchief; but, besides the want of affording due command over the strength of the vapour, I consider that they are open to objection from the chloroform being so near to the mouth, that some of it might be inhaled, by a forcible inspiration, in the form of minute drops, when it would cause temporary spasm of the glottis.

ON THE

COLOUR OF THE HAIR.

DECEPTIVE APPEARANCE UNDER THE MICROSCOPE.

By J. W. Griffith, M.D. &c.

The colour of hair has, I believe, been long considered to depend upon the presence of a quantity of colouring matter which is accumulated into little heaps, and contained in the medullary portion of the hair. These so-called accumulations of pigment are, as it is well known, very beautifully seen in the hair of many kinds of animals, as the sable, the badger, &c., where they are apparently arranged with remarkable regularity and beauty.

The object of the present note is to shew that the above appearances have been totally misinterpreted, and it is astonishing how such misinterpretations are handed down from author to author, and even how they are made by observer after observer.

The appearance considered as the accumulation of pigment into little heaps, arises from a number of air cavities existing in the medullary portion of the hair; the air contained within them refracts the rays of light beyond the field of the microscope, and thus they appear black: they are, however, rarely perfectly black, there being generally a minute white spot in their centre.

These air spaces probably arise from the evaporation and escape of the fluid which in the younger hair filled the cells of the medulla.

That they contain air, and that the air produces the pigment-like appearance, may be shewn as follows:—

1. If a piece be cut from the centre of the hair* (by transverse cuts), and this be digested in warm water or alcohol, the hair becomes very transparent, and by this method all the air cavities may be filled with the water or spirit; nay, if the piece of hair be immersed in the oil of turpentine, and warmed, the fluid may be seen under the microscape to enter the cells, and the air to escape in bubbles at the ends. All appearance of the pigment then vanishes, but traces of the cell-wall of the medulla are still faintly seen, they not being of the same refractive power as

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* That of the sable, or some other animal in which the cavities are large and distinct, is best.

the medium in which they are immersed.

2. If the portion of hair be removed from the water, spirit, or oil, and allowed to dry, the fluid evaporates, and the air may be seen under the microscope to re-enter and restore the original appearance. On preserving specimens of hair in Canada balsam, the cells are frequently completely filled in parts with the balsam, especially at the extremities.

3. If the hair be bruised in an agate mortar, it becomes flattened out, resembling a shred of membrane, the pigment appearance being completely destroyed.

DR. BUEL ON THE RATE OF MORTALITY FROM PRIMARY AND SECONDARY AMPUTATIONS.

As to the question whether primary or secondary amputation is preferable, it is evident that an equal number of similar cases should be selected from each class in order to institute anything like a just comparison. It is customary at the New York Hospital, when amputation is demanded after severe injuries, to operate before the accession of inflammatory action. So that, strictly speaking, the occasions for secondary amputations will be comparatively rare.

Of the whole number of amputations, sixty-two were the result of injuries, and were fatal in nineteen cases, making the mortality 30 64 per cent. Of these, thirty-six were primary amputations: of which there were of the hip-joint one, and that fatal; of the thigh seven, of which four were fatal; of the leg twelve, of which five were fatal; of the arm seven, and of the forearm five, of which none were fatal: making the mortality 27·77. The remaining twenty-six amputations may all be said to have resulted from injuries of a more or less severe character; but, as will be seen, they were performed at very different periods after the original injury. Of this number, eleven were amputations of the thigh, of which three were fatal; at the knee-joint one, which was fatal; of the leg seven, of which one was fatal; at the shoulder-joint five, of which three were fatal; of the arm one, and of the forearm one, of which neither was fatal: making the mortality 30·76 per cent.

The number of operations for various chronic affections was twenty-nine, of which six were fatal. Of the thigh there were eighteen, of which four were fatal; of the leg five, of which none were fatal; of the arm three, of which none were fatal; of the forearm four, of which two were fatal: making the mortality 20·67 per cent.—*American Journal of Med. Sciences.*

MEDICAL GAZETTE.

FRIDAY, NOVEMBER 17, 1848.

There is a form of poisoning of which we have had of late several lamentable instances—namely, where substances of a highly poisonous nature have been dispensed by mistake for drugs prescribed medicinally. It is with no desire to add to the sorrow or legal responsibility of those who have thus been unintentionally the means of destroying life, that we advert to this subject; but, if possible, to extract good out of misfortune, and to impress upon those who dispense medicines, the imperative necessity of keeping all active poisons apart from drugs which are required for daily use. It is not enough to have them on a different shelf, but they should be kept in a distinct part of the dispensing establishment. There should not be the least risk of the bottle containing an active poison being left by accident on the same counter—a circumstance which must occasionally happen when poisons are retailed and drugs dispensed in one shop. Our suggestion will probably be met by the statement that no line of distinction can be drawn between drugs and poisons; that many medicinal preparations in constant use are really active poisons; and that this separation of pharmaceutical preparations would entail so great an amount of trouble and expense, that in the greater number of druggists' shops the plan could not be carried out. While we freely admit the inconvenience and additional expense which would be caused by such a change, we are bound to look at the consequences to the public under the present loose plan of keeping in the same shop innocent drugs and virulent poisons. We have known a great number of instances in which tincture of opium has been sent out for tincture of rhubarb; and in several of these cases the poison was swallowed, and caused death. Other fatal mistakes are recorded where oil of tar has been dispensed for black draught; corrosive sublimate for calomel; salt of sorrel for cream of tartar; oxalic acid for Epsom salts; cyanide for the ferrocyanide of potassium; and strychnia for morphia! However difficult it may be to draw a boundary line between a poison and a medicine, no person can entertain any doubt, with respect to the substances here mentioned, that they admit of a clear separation, and might be kept in a part of the dispensary quite distinct from that in which the medicines for which they have so often been fatally mistaken, are preserved. But we must go a step further than this. In our opinion, such substances should be dispensed from a different counter, with different scales and measures, and under the superintendence of an assistant to whom this duty should be specially assigned. If this plan be adopted with the more active poisons, and if the poisonous preparations be invariably kept in bottles of *coloured glass* (*e.g.* of a deep blue colour), we are satisfied that there will be no danger to life from the circumstance that a few preparations of a doubtful nature, which may or may not be regarded as poisons, are left on the shelves of the dispensary.

When there is some reason to suspect that a fatal mistake has been made, and the druggist is questioned on the subject, his answer is commonly to the effect, that although he has the poison in his shop, it is kept on a different shelf, at some distance from the drug for which it is alleged to have been mistaken, and that an assistant could not, by any possibility, without being aware of it, take the one bottle for the other. This is a very plausible statement, and being given *bonâ fide*, carries with it great weight; but the misfortune in all these cases—the very essence of the accident, is, that a man who has served arsenic for magnesia, or strychnia for morphia, under such circumstances, is not aware of his fatal error. Powdered arsenic would not be kept in a bottle in a shop except for the purpose of retailing the poison;* if retailed, this bottle may by mere accident be left on a counter for a few minutes, with other bottles containing white powders. Owing to some momentary inattention (and without this no accident could ever occur), the bottle may by mistake be taken up by the same or another assistant, and a poison supplied for an innocent medicine! The patient dies, and if, unfortunately, no portion of the poison thus accidentally supplied for medicine be saved, the fact that there has been a mistake cannot always be clearly traced to the dispenser, and an innocent person may be charged with the administration of poison. The assistant is fully persuaded that he could not possibly have made such a serious mistake—to believe the contrary would be almost equal to supposing that he dispensed the poison intentionally—and the master calmly deposes, before a coroner's jury, that the arsenic-bottle is of a different size or shape, has a different label on it, and is kept on a high shelf, in a different part of the shop! The circumstances here described are not based on fiction, but on fact. A superintendent of police, in endeavouring to trace out the sale of poison in reference to a case of murder which occurred some years since, informed us, that on suddenly entering the shop of a provincial druggist, on a market-day, he saw on the counter a bottle of powdered arsenic, near several other bottles containing white powders, which he was informed were of a medicinal nature. It is very probable, that, as a general rule, the bottle of arsenic was kept at a distant part of the shop, on a high shelf, &c.; but it must be remembered that these fatal mistakes could never arise except from the *non-observance* of the general rules suggested by ordinary prudence and care. A mistake of this kind has recently placed in the greatest jeopardy, the lives of two innocent persons in this metropolis; and we think that a Court of law would be only acting with a proper degree of distrust, when inquiring into the probability of the occurrence, if it rejected all evidence as to heights of shelves, shapes and sizes of bottles, and the particular parts of the shop in which the medicine and poison were kept. The questions should be—Is the poison kept in the shop—is it retailed from the same counter as ordinary medicines—and is it the duty of one person to retail the poisons, or is this performed by any individual who happens to be in the shop? This we think obvious, that a mistake could never arise except from a violation of some of those rules, which reasonable caution would suggest. We hold this strong opinion on the irrelevancy and deceptive character of evidence of this kind, not merely from the repeated occurrence of fatal accidents from mistakes made by otherwise careful and experienced dispensers, but because no man can be answerable for the constant exercise of caution in those who are under him; no man who retails arsenic kept in an open shop, could swear that in his absence, his assistant could not have possibly dispensed this poison for some other white powder, or have sold tincture of opium for rhubarb; and in the event of the death of the patient, the assistant could not admit that he had made such a serious mistake without at once criminating himself.

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* Many druggists wisely keep arsenic, already weighed, in packets and properly labelled. To these, of course, our remarks do not apply.

In general, the fact of poisoning under these circumstances is clear, and the extent of the evil is then known. The life of the unfortunate patient is sacrificed, and the dispenser is put on his trial for manslaughter. In our last number * will be found a short report of a case of poisoning by mistake, which has led to the sudden death of a lady in the prime of life. A fatal dose of *strychnine* was dispensed for *salicine*, and the patient died in less than two hours. The dispenser, who was represented to have been a most careful and competent person, had of course no idea that he had committed such a serious mistake, until informed of the death of the lady. The cause of the accident is alleged to have been, that the bottles containing strychnine and salicine, were kept *side by side*, and one was inadvertently taken for the other! On this occasion, the mistake was clearly brought home to the dispenser, 1, by the sudden death of the lady under all the symptoms of poisoning by strychnine; 2, by the absence of any natural cause of death on an inspection of the body; and lastly, although the poison was not detected in the stomach, by its presence in part of the mixture dispensed. Such an accident might, under some circumstances, have occurred to any person, however cautious he may think himself. The two powders are very similar in appearance; they were probably contained in similar bottles, and the latter half of the name on the labels is the same in each.

We are indebted to Dr. Snow for a short report of another case of poisoning by mistake, which recently occurred in the county of York. The parents of a child sent to the shop of a druggist for a pennyworth of magnesia. It happened that the druggist was not in the shop at the time, and the youth in attendance dispensed *arsenic* by mistake, instead of *magnesia*. The poison was given to the child: the usual symptoms followed, and in spite of all remedial treatment, the child died. The facts of this case were, we presume, too clearly indicative of a mistake to admit of a doubt of the allegation that magnesia had been really dispensed, or to allow of the suggestion that arsenic had been subsequently substituted for the criminal purpose of destroying the child. Admitting, therefore, that arsenic was, in this instance, dispensed for magnesia by a youth evidently ignorant of the different appearance of the two substances, and probably not used to dispensing, it remains to be considered whether any sane druggist would keep the bottles side by side on the same shelf. We cannot believe that there could have been such gross negligence on this occasion, and we therefore arrive at the conclusion that a fatal mistake is very liable to happen even when such a precaution is observed.

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* Page 797.

If in these two recent cases the poisons had been kept in coloured bottles, and in a place distinct from the shop or dispensary, the two unfortunate victims would probably have been now living, and the parties making the mistakes would not have had to undergo a trial for manslaughter.

The most serious feature which these cases present remains yet to be described. A combination of circumstances may lead to a charge of murder against those who have the care of the deceased; and if none of the poison administered for medicine can be procured, and the whole of the facts connected with the death be not accurately sifted, the discovery of arsenic or other poison in the stomach, may actually be taken as a proof of guilt, and the accused may incur the risk of becoming the victim of a false accusation. A trial took place at the Central Criminal Court, in August last, the facts of which will serve to show that a mistake in dispensing medicine may not only affect the public, by causing the death of a parent or child, but occasionally by aggravating their sorrow in leading to a false charge of murder. We shall reserve our analysis of the evidence in this case until the next number.

THE weekly return of the Registrar-General is still favourable to the healthy condition of the metropolis. The deaths are represented as exceeding the autumnal average by 11; but this surplus arises not from an increased mortality, but from the introduction of a number of deaths from one sub-district which should have been distributed over the previous weeks. The mortality from zymotic diseases is actually lower than in the preceding week; the registered deaths from diarrhœa, cholera, and typhus, are also less numerous.

On the 10th inst. there were in the metropolis six cases of malignant cholera, and one death; on the 13th inst. eighteen cases, and thirteen deaths; on the 14th inst. six cases, and one death; and, on the 15th inst. four cases, and three deaths. The official report up to this date gives the following as the number of cases and deaths:

	Cases.	Deaths.
In London and vicinity..	327	171
the Provinces........	70	42
Scotland............	642	320
Total......	1039	533

The deaths, it will be seen, amount to more than fifty per cent.; but we are inclined to doubt whether so many cases of malignant cholera have occurred in the metropolis as the above table represents.

Reviews.

Elements of Anatomy. By Jones Quain, M.D. Fifth edition. Edited by Richard Quain, F R.S., and William Sharpey, M.D. F.R S., Professor of Anatomy and Physiology in University College, London. Vol. 2nd., 8vo. London: Taylor and Walton. 1848.

As the volume before us is the completion of a work highly prized by students of anatomy and physiology, we lose no time in announcing its publication. When a book has reached its fifth edition, it may be considered as placed beyond the necessity of a formal review. It is, however, the duty of a critic to see that there is no retrogression, and,—acting on the modern rule *non progredi est regredi*,—that the work is kept up to that level which students of anatomy have in the present day a full right to expect. On these points it is a pleasure to us to be able to speak satisfactorily of the labours of Mr. Quain and Dr. Sharpey. So far as we have examined it, the work is improved by numerous valuable additions to every department. In General, Descriptive and Surgical Anatomy, it contains all the information which a student can desire; and the descriptions are rendered intelligible, by the introduction of many new and well-executed wood-engravings. Either to the beginner or to the advanced student, this work will be found a safe and useful guide.

Popular Lectures on the prevailing Diseases of Towns; their Effects, Causes, and the means of Prevention. By William Kebbell, M.D., Physician to the Brighton Dispensary. Small 8vo. pp. 196. London: Whittaker. 1848.

In four lectures, Dr. Kebbell has here endeavoured to enforce the necessity of an immediate correction of those evils which are dependent on the deficiency of drainage, sewerage, and ventilation, in large and populous towns. Admitting that no remedy can be applied, until the extent and effects of a neglect of sanitary precautions are brought in a distinct form before the public, much credit is due to professional men, who, like Dr. Kebbell, devote a portion of their time to the making of these subjects intelligible. The lectures, although written for a local purpose, have a general application; and we, therefore, recommend this little volume to those of our readers who take an interest in the sanitary movement, not for any novelty in the views contained in it, but for a compendious arrangement of hygienic facts.

Memoranda on Poisons. By T. H. Tanner, M.D. 12mo. pp. 61. London: Renshaw. 1848.

We wish we could speak favourably of these memoranda, but a glance at the book has satisfied us that the author has not had sufficient practical experience of the subject on which he has written. The little pocket volume is on the same plan as Dr. Rigby's Obstetric Memoranda, but far inferior in execution. Dr. Rigby brings us well-digested facts derived from long experience and careful observation. Dr. Tannerfurnishes us with an abstract of toxicological facts from works which are in the hands of most professional men. He either does not understand the action of tests, or has a very unfortunate way of expressing himself. Thus we are told, in reference to the tests for corrosive sublimate, that "a solution of iodide of potassium, added to a small quantity of the powder, is turned of a bright scarlet." There are some other equally strange statements, which have a very questionable claim to the title of "memoranda."

OBITUARY.

At Newmarket, on the 2nd inst., Robert James Peck, Esq., surgeon, aged 59.

On Saturday, the 11th inst., at Capêcure, Boulogne-sur-Mer, John Hill, Esq., M.D. in the 70th year of his age.

On the 6th inst., at his residence, Southampton, highly respected, and deeply lamented, Mr. John Alfred Stace, surgeon, aged 29, second son of Joseph Stace, Esq., surgeon.

On the 15th inst., aged 35, William Twining, Esq., M.D., youngest son of Richard Twining, Esq., of 13, Bedford Place, Russell Square.

Proceedings of Societies.

PATHOLOGICAL SOCIETY OF LONDON.

Monday, Nov. 6, 1848.

C. Aston Key, Esq., in the Chair.

Dr. Handfield Jones exhibited a

Specimen of Gouty deposit in the Knee-joint,

from a man æt. 41, admitted August, 9 into St. George's Hospital, under the care of Dr. B. Jones, and who died on the 20th, from continued fever.

Both knee-joints contained deposits of the ordinary white chalky matter of gout in the following situations:—(1) Under the synovial membrane at the margin of the cartilage. (2) In the superficial structure, or on the surface of the cartilage, from whence it could not be removed by gentle washing or scraping. (3) In the substance of the cartilage at some depth. (4) In the cancelli of the subjacent bone (the patella).

The gouty matter appeared for the most part as aggregations of amorphous masses, varying in size, and encrusted over frequently with minute crystalline spicula, so as to present an appearance somewhat similar to that assumed by artificially-crystallized urate of soda.

The cartilage was remarkably thickened, being at least three times its ordinary dimension. Near its middle it was much more elevated than towards its margin, and very soft and yielding. When a vertical section was made of it, the surface exhibited a marked fibrous structure, quite visible to the naked eye; the fibres being arranged vertically to the surface, and being much more marked in the deeper than in the superficial layers.

The microscope showed that the basis substance was considerably increased, the cells being in much scantier proportion than natural, but not essentially altered; the fibres were not isolated from each other; in fact, the basis substance had not yet fairly broken up into separate fibres, but was evidently tending so to divide. The fibres or bands were of some considerable width, separated by narrow intervals of healthy structure. It was worthy of notice that, though their own direction was manifestly vertical, yet they were striated transversely in a very marked manner. This, as well as the coarser perpendicular arrangement, was scarcely observable in the parts near the surface.

Dr. Jones also made the following remarks on the character of the

Morbid changes in Pulpy Thickening of the Synovial Membrane—a specimen of the affection was exhibited.

The peculiar and remarkable alteration which the synovial membrane undergoes in the disease termed "pulpy thickening," is, I believe, usually conceived to depend on the exudation of lymph, which becomes organized into a kind of false membrane.

This statement is tolerably correct, but may perhaps admit of being rendered more full and precise by the following details:—

A knee-joint was lately removed in St. George's Hospital, by Mr. Hawkins, which was affected with the above-mentioned disease; not, however, in a very advanced stage. The synovial membrane was connected with a soft greyish structure, which formed prominent fringes, overlapping and encroaching considerably on the surface of the articular cartilage. The marginal zone of the cartilage, for a varying extent, was converted into a kind of fibrous tissue, and blended with the altered synovial membrane. More internally, the cartilage was grooved on the surface, and overlapped to a greater or less extent by the fringe of the newly-developed structure. The fibrous tissue into which the cartilage was transformed, was of an imperfect kind, not divided into distinct fibres, and not containing any of the natural cells of the cartilage, but strewed over with numerous oil drops and yellowish molecules. A vertical section of the cartilage, carried from without inwards, presented to the naked eye the following appearance:—The cartilage, overlapped above by the synovial fringe, was obliquely truncated towards its outer border, and passed by actual continuity into a fibrous tissue, which blended above with the altered synovial membrane. Up to its truncated edge, the cartilage to the naked eye appeared not otherwise than healthy, and it was very remarkable to observe how abruptly the change occurred from firm cartilaginous into soft fibrous structure. On a microscopical examination, a thin vertical section of the cartilage, including the truncated edge, displayed some interesting changes taking place in the cartilage itself. At a certain distance from the margin where the change was proceeding, the cells of the cartilage were quite natural, and in the ordinary proportion to the basis substance. Nearer the margin, they were enlarged, and contained young cells in their interior; while close to the margin itself they were prodigiously developed, crowded with young cells, and had encroached considerably on the intervening basis substance. One or two enlarged groups projected from the margin into the fibrous tissue, and there were débris of several others strewed throughout the neighbourhood. The cells formed by endogenous growth within the original cell, contained generally each a small oil drop, but were principally filled with a transparent matter: the quantity of oil contained in them was so small that it was quite clear that fatty degeneration was not the essence of the morbid change. The intervening basis substance had a finely granular aspect, and was not perceptibly altered from its healthy state, save that it was greatly encroached on, and diminished by, the absorbing action of the unnaturally-developed cells. One of the enlarged cellular groups, near the margin, had a long diameter of $\frac{1}{113}$ inch, and a short diameter of $\frac{1}{167}$ inch.

The peculiar synovial structure, under whose influence these changes seem to have been wrought, was found to possess a low, but definite and significant type of organization. It consisted principally of well-formed nuclei of the ordinary appearance, and granular matter, with which were mingled a few fusiform and circular cells. These elements were contained in an exterior enveloping membrane, very thin, of whitish aspect, and nearly of homogeneous texture. There was scarcely any appearance of stromal fibres throughout the contained mass, except that there existed a good many large vesicles or loculi from 1-56 to 1-37 of an inch in diameter, which had nearly homogeneous envelopes, and were filled with material similar to that which surrounded them. Bloodvessels with delicate walls ramified through the mass, but not in great numbers.

It is evident, from the above description, that this peculiarly-developed synovial tissue is much more than mere exudation of lymph; no false membrane could assume such a form and arrangement: it is not, therefore, a product of a chronic inflammatory process, but a special growth. It does not appear to be of malignant character, as it shews no tendency to infiltrate the adjacent parts, or to contaminate the constitution or glands. It remains, then, to inquire what is its real nature and function. If we call to mind the observations of Mr. Key and Professor Goodsir, as to the mode in which ulceration of articular cartilage takes place, we shall find in the account above given of the condition of the cartilage and synovial structure, much reason to believe that the process in the instance we are now considering is but a variety of that which occurs in other cases of ulceration of cartilage. For the peculiar thickening of the synovial membrane is probably only a higher development of the vascular fringes of the same tissue by means of which Mr. Key describes the erosion and removal of the cartilage to be effected. And again, we observe in the cartilage itself the very same changes to be going on as were first described by Mr. Goodsir in his well known paper. It may further be remarked, that the structural condition of the altered synovial membrane is just that which is best adapted for the function it may be supposed to discharge—viz. absorbing into its substance the cartilaginous tissue, either immediately or after it has been disintegrated by the action of its own cells: this appears probable, from the circumstance that it is not made up of complete cells, but of myriads of mere nuclei, whose attractive energy seems generally to be more powerfully exerted when they do not proceed to the stage of cell development.

It is an interesting inquiry, though difficult to determine what is the cause, which induces the cartilage itself to take on so remarkable an action, resulting in its own destruction. Can it be the proximity of the absorbing synovial tissue? or are the development of this tissue, and the change in the cartilage, but two concurrent results of one common cause, exercising a morbid influence on the nutrition of the tissues composing the joint?

Mr. Birkett exhibited a specimen of

Imperfect Hypertrophy of the Mamma.

E. R., æt. 34, a married lady, without children, of a very nervous temperament, but general good health, upon the 19th October, 1840, presented to Sir A. Cooper a swelling, the size of a large orange, in her *right* breast. She had suffered occasionally from darting pains in her *left* breast; and one day, after experiencing some uneasiness in the part, she suddenly felt soreness and tenderness on the opposite side. Upon examining the *right* breast she discovered a swelling, the size of a pigeon's egg, situated upon the upper and inner part of the nipple. Becoming alarmed, and living at Holyhead, she went to Dublin, and consulted Messrs. Colles and Carmichael, who both pronounced the tumor to be *constitutional cancer*. After her return home, and using the remedies suggested without any benefit, she came to London and consulted Sir A. Cooper. The disease had been gradually growing for fourteen months, and was of the size of a large orange. The catamenia had always been quite regular. She had never borne a child. During the increase of the swelling, and until its removal, it was unattended with pain.

The tumor was removed on the 28th October, 1840; and when minutely examined the diseased tissue was pronounced by Sir A. Cooper to be an enlargement of several lobes of the mammary gland. In its centre were a number of cysts, containing a transparent fluid, and he was of opinion that it was not malignant, having been, however, of a contrary opinion before the operation. The wound healed quickly.

From October 1840, until March of this present year, being seven years and six months, she frequently experienced an occasional pain in the part; but as she was of a nervous temperament it was always attributed to some irritation of the divided nerves. At the commencement of this present year she complained of pricking sensations in the cicatrix, with some little hardness, and a change of colour of the part. The functions of the uterus were correct. She took the various preparations of iron and iodine, and at the suggestion of Sir B. Brodie, Liq. Potass. in small beer, and at the same time Ext. Conii. Great benefit was derived from this last treatment, so much so that the chronic enlargement of the breast almost disappeared, and the patient thought herself cured. This was, however, only temporary, for the breast, without any apparent cause, again grew large.

On the 10th March, 1848, she complained of more pain in the part, and from this period the disease *rapidly* increased; more particularly after an attack of urticaria, which was so severe as to blind her for twenty-four hours.

She came latterly under the care of Mr. Key, when the tumor appeared moveable, uniform on the surface, pulpy to the feel, and giving every appearance of an encysted fungoid tumor. Owing to its rapid growth, having increased in the space of a week to a sixth of its original volume, and the skin over it appearing as though it would ulcerate, the tumor was removed.

The tumor weighed one pound and a quarter, was soft and elastic to the touch, had a portion of the integuments and of the pectoral muscle adherent to it, and was surrounded by adipose tissue. Upon the integuments were traces of a cicatrix, and of the bites of leeches. There was no evidence of the disease having attacked the cutis, although it was close beneath it. The exterior of the tumor was deeply and minutely lobulated, and invested by a kind of delicate fascia of fibro-cellular tissue.

A section was made of it, and the surface exhibited one uniform pinkish tint. No opake fluid could be expressed, but a glary blood-coloured fluid might be scraped off. The whole mass was made up of minute lobuli not larger than one-eighth of an inch in diameter, and the lobed character of the exterior did not penetrate the substance of the mass.

Minute examination.—The fluid which was scraped off presented oil globules and nucleated bodies, which were of two kinds, and both differing from those usually found in carcinoma.

The thin section, under the microscope, presented the acini or terminal vesicles of gland tissue, very large and distended with epithelium. They did not present ducts, and were even often isolated. A very imperfectly-formed uniting tissue could be distinguished between these acini. The epithelium of the acini resembled that of mammary gland. The large nucleated bodies those that are seen in young tissues in the process of development.

Mr. Birkett concluded that the tumor consisted of imperfectly-developed gland tissue.

Dr. Hughes exhibited a specimen of

Disease of the Thyroid Gland, and Enlargement of the Internal Jugular Vein and Collateral Branches, which during life had given rise to a large cervical tumor of very doubtful character.

John W. presented himself among the out-patients at Guy's Hospital, March 31st, 1848, but was so feeble and emaciated as to require to be taken in immediately. He was a carpenter, and had recently been under the care of Dr. Haycraft, of Greenwich, for vomiting, pain of the stomach, and general symptoms of dyspepsia, though he had not, to his own knowledge, passed any blood by the bowels or otherwise. He complained of pain and tenderness in the epigastrium, in which existed considerable aortic pulsation, distinguishable by both hand and ear. The rhythm of the heart was strikingly abnormal. There existed a very distinct and obvious triple sound. The third sound occupied the interval, and the three sounds were thus composed of one long and two short sounds. A singular tumor in the neck was observed, the very existence of which was unknown to the patient. A soft roundish mass, about the shape and size of a Norfolk biffin, existed under the right sterno-cleido-mastoid, slightly moveable, and indistinctly connected with the larynx, but not sensibly affected by the act of swallowing, or the movement of that organ. Independently of this tumor, which was constant, upon coughing, or upon other violent forced expiration, great lateral distension of the right side of the neck became apparent. The temporary additional distension was apparently caused by some fluid, and, as far as could be ascertained, did not afford any resonance on percussion; while the permanent tumor seemed to be partially composed of solid materials. The temporary enlargement was very considerable, and of an elongated form, and appeared to pass in the course of the jugular vein, but at the same time was broad and flat, and occupied the greater part of the neck upon the affected side. There existed a little enlargement of the thyroid, but no venous distension was apparent upon the left side. The temporary swelling could be prevented by pressing the finger firmly behind the clavicle, but it was not materially influenced by pressure in the upper part of the neck. A great variety of opinions were given as to the nature of this swelling: abscess connected with the cervical vertebræ, a serous cyst, malignant disease of the anterior mediastinum, hernia of the lung, a permanent tumor, with pressure upon the brachio-cephalic vein, and enlarged bronchial glands, were among the number.

His tongue and his skin, excepting the extreme pallor, were not morbid; nor, excepting feebleness, was his pulse. In a few days he began to complain of pain in swallowing, and of hoarseness, with sore throat; and soon after, his general emaciation led to an exploration of his chest, when it was discovered that, in addition to his other ailments, he had decided tubercular disease of the lung. The phthisis assumed an acute form, and he rapidly sank. A few days before his death the triple beat disappeared. His bowels became relaxed, and aphthæ appeared on the tongue on the 15th June, and he died on June 24th.

Inspection five hours after death.—The diaphragm extended up to the fifth rib. Both pleuræ were adherent, and both lungs abundantly disseminated with tubercles, accompanied with old, grey, and recent red pneumonic consolidation. The pericardium was slightly adherent by a very delicate membrane to the pleura of the left lung, and internally a delicate web of fibrine connected the aorta with the superior cava. The right auricle now opened was found to contain a colourless clot, extending far into the large veins. A tube was now introduced, and by inflation the jugular vein was distended to a size considerably larger than an adult thumb, and the lateral branches to a proportionable extent, displaying the cause of the temporary tumor, which was, probably, itself induced by the enlargement of several enlarged bronchial glands in the vicinity of the great vessels. The thyroid gland was generally enlarged, but on the right side formed a process with a narrow neck, of the size and shape of a dried pear, which contained a little serous fluid in an irregular cavity, with a brilliantly-lustrous lining, like the belly of a mackerel. The tricuspid, pulmonary, and aortic valves were healthy; the mitral was thick, opaque, and corrugated at the edges, but quite flexible, and probably efficient as a valve. A patch of white deposit, the result of an old inflammatory process, existed on the endocardium below the valve, and the aorta contained a few atheromatous patches. The stomach was small and natural. At the lower part of the jejunum was an old ulcer, nearly an inch long, but evidently in the process of healing. No other disease was noticed in the intestines. The liver was rather large, and somewhat œdematous; the kidneys were not unhealthy. Mr. Birkett had examined the substance lining the cyst of the thyroid, and had found it composed of a densely-packed layer of cholesterine.

Dr. JOHNSON exhibited, for Mr. H. Smith, a specimen of

Malignant Disease of both Ovaries.

A female, aged 40, had suffered for the last four months from constant vomiting whenever she took food of any description except diluents. She complained also of great pain in the region of the epigastrium and abdomen, which prevented her from assuming the recumbent posture. Latterly ascites came on, and she rapidly wasted away, and died six months after her illness first commenced.

On post-mortem examination, the abdomen was found quite full of fluid. On discharging this, the great omentum was discovered to be changed into a mass of disease, composed of cancerous tumors about the size of a nut. The interior of the stomach was quite healthy. The peritoneum covering the diaphragm and the large and small intestines was studded with small cancerous tumors. The uterus was perfectly healthy, and of the normal size; but in place of the ovaries there was on each side a rounded mass about the size of an orange, consisting of the same structure as the tumors observed in the omentum.

The case was interesting, inasmuch as the constant vomiting immediately after eating had led to the diagnosis of the extensive disease of the cardiac orifice of the stomach.

Dr. BRINTON exhibited a

Tumor of the Fifth Nerve in a Lamb aged about Six Months.

The specimen had been forwarded to him by Mr. Lawson.

The only symptoms which the farm-servant could afford were, that the animal frequently turned or "spun" round towards the right side; and, after falling on this side, could not raise itself. It did not appear to suffer any pain. Gradually, however, marasmus came on; and, after proceeding for some time, the disease was cured by the animal being killed.

The origin of the fifth nerve on the right side was occupied by a tumor dilating the pons Varolii, and in three or four places reaching the surface, and forming small, round, and apparently isolated tumors, of about the size of a millet seed or barleycorn. The fibres of the nerve were stretched over the tumor; others mingled with its structure. Both portions of the nerve appeared to be involved, but perhaps the motor part chiefly. The tumors, where they projected from the surface, had a glistening white appearance, and their texture was firm, and almost cartilaginous; nevertheless, the microscope shewed them to be composed of fat-cells, with a few nerve-tubules in the interstices of the adipose masses, and a very small quantity of fibrous tissue.

Dr. **Ogier Ward** read the following particulars of

Impaction of a Halfpenny in the Pharynx for Eight Months.

A boy, æt. 1 year and 8 months, came under Dr. Ward's care, June 23d, when his breathing was so loud and stridulous that it resounded through the hall in which he was waiting. As soon as he saw him, the child began to cry so convulsively, and was seized with such violent coughing, that a close examination of his throat was impossible. He was pale and emaciated, and seemed decidedly phthisical. The glands of the neck were somewhat enlarged, and the chest sounded well on percussion. His mother observed that he was quite well and hearty till March 3d, when she supposed he swallowed a halfpenny with which he was playing, as he began to choke immediately, and the coin could not be found afterwards, and from that moment his breath had become stridulous. She was then in Coventry barracks, and she took him to the regimental surgeon, who, thinking it an attack of irritation from teething, merely gave him some castor oil. At this time, besides the dyspnœa, he was constantly dribbling a thick mucus, and he could only suck one mouthful of milk at a time, being forced to withdraw from the breast with each effort of swallowing. The mucus was so profuse as almost to choke him; and these symptoms, with an increasing cough, continued for three months, till a short time before he came under Dr. Ward's care, when the dribbling had almost ceased. The mother next took him to the Coventry Hospital, where the case was again considered to be laryngismus from teething, and was treated accordingly. Dr. Ward concluded that the bronchial glands were affected with tuberculosis, as well as those of the neck, and, pressing on the recurrent nerves, were causing the stridulous breathing. He therefore prescribed an iodine liniment, and the syrup of iodide of iron. Under this treatment the child rapidly improved, with occasional relapses, and thus seemed to confirm his diagnosis, when, on Oct. 25th, his mother brought him, looking comparatively well, and produced the halfpenny, which, she said, he had taken out of his mouth and put into his father's hand, after a severe fit of coughing, the day before. There is now, however, considerable hoarseness when he cries or coughs, the latter symptom not having ceased with the removal of the cause. The halfpenny was very much worn or corroded, and covered with a thick coating of dried mucus or masticated food.

From this time the patient has gradually improved, and may now be considered convalescent.

Dr. **Ward** also related another case in which a halfpenny had been impacted three days, and in which the symptoms were similar, particularly the dribbling of the saliva and mucus.

The meeting adjourned to Monday, Nov. 20, 1848.

MEDICAL SOCIETY OF LONDON.

Monday, November 6, 1848.

Mr. Hancock, President.

Emetics in cholera.

Mr. T. E. Baker (Bengal Establishment) said—It is now thirty years since I first saw the disorder. The treatment then strongly recommended was, scruple doses of calomel, with half a drachm or a drachm of laudanum, in peppermint water. This treatment was often successful when the disease had assumed a milder form, but was very far from succeeding when it first broke out, and the patients would die in the course of two, three, or four hours. We were not confident in any mode of treatment, but I think the most successful was an emetic in the first instance, which induced full vomiting, quite different from the spasmodic action caused by the disorder; afterwards, five-grain doses of antimony, with or without calomel; bleeding; mild purgatives; flannel rollers to the extremities; lemonade, tea, plain water, or soda-water. Full vomiting by emetics will often excite reaction, which seems the chief indication in our treatment. Bleeding diminishes the blood in the veins, and we find the venæ cavæ gorged with blood; the heart beats quick, weak, and indistinct; the breath is quite cold, for the blood does not circulate in the lungs. The tight flannel rollers relieve the painful spasms; they do not stop the circulation in the arteries, but may retard the flow of blood to the venæ cavæ, which we always find gorged. I much question the use of stimulants at any period of the disorder, though I have seldom seen marks of inflammation in the stomach where they have been given. There are often ecchymoses near the pylorus, which I considered to be the effect of spasmodic vomiting. We find the duodenum red and inflamed, and the inflammation appears to extend in proportion to the duration of the disease. The disorder appears to be the highest stage of congestive fever, and if we can succeed in making the blood circulate through the lungs, and consequently through the whole system, we have found a remedy for the disease. Though there are some symptoms similar to the cold stage of an ague, I do not remember to have noticed any tremor or shivering. In 1817, a medical friend of mine (Mr. Curling) found bleeding to be very beneficial, but in 1828, Dr. Mouat, Surgeon, Her Majesty's 14th regiment, found it injurious, or at least of doubtful benefit. He also stated that some severe cases of cholera occurred in a native regiment, in which eleven men died out of the twelve attacked. In these cases, there was purging without any vomiting, and to the best of his recollection (the patients not being under his care) there was a total absence of spasm.

Mr. **Hird** considered that emetics were useful in bring on reaction. He referred to the plan of treating the disease by calomel and opium, as extensively tried in 1832. That plan had been found wanting. The experience of Dr. Graves confirmed this. He (Mr. Hird) had found no benefit from large doses of calomel or opium. The acetate of lead appeared to him to have the most effect in stopping the profuse alvine discharge. This medicine was given in doses of two grains with an eighth to a twentieth of a grain of opium every half hour, according to the severity of the symptoms. He should be fearful of giving the vapour of chloroform in cholera. The patient was already nearly asphyxiated, and this process would increase that condition.

Dr. **Clutterbuck** considered that we knew little or nothing of the pathology of cholera. He was convinced of the utility of the chloroform, which was uniformly of service.

Dr. **Gavin Milroy** entered at some length into his views with respect to the value of emetics in cholera. He regarded this disease as consisting essentially of congestion in the viscera. Vomiting, when produced by medicine—in contra-distinction to that emptying of the stomach by pumping on its contents, which obtained in cholera—had a tendency to remove this congestion. This, with the application of strong stimulants to the stomach extensively, was a most successful plan of treatment. Opium, he thought, had done harm.

Dr. **Bennett** inquired if, in the case treated by chloroform, any secondary fever had followed. He related a case which had occurred in St. Thomas's Hospital, in which the patient died from secondary fever.

Dr. **Clutterbuck** said that in all cases which had recovered, secondary fever occurred.

Mr. **Dendy** reiterated his opinions respecting the diseased condition of the blood in cholera.

Mr. **Headland** made some observations on the directions respecting cholera which had been promulgated by the Board of Health. He regarded these as reflecting highly on the medical profession. He thought we should do more good by treating this disease on some recognised principle, than by looking merely at the symptoms. Some of these symptoms, as, for instance, vomiting, was but an effort of Nature to get rid of the poison. Opium he regarded as generally useless or injurious. Calomel, in small and often-repeated doses, and emetics, with attention to the surface of the body, he regarded as the best plan of treatment.

WESTMINSTER MEDICAL SOCIETY.

November 4, 1848.

J. **Webster**, M.D., F.R.S., **President.**

Mr. I. B. **Brown** read a paper on

Scarlatina.

He considers that this disease is not a plethoric inflammatory affection, but is one of an asthenic form of inflammation, belonging to that class produced by the wonderful action of morbid poison upon the system; that any cases not of this nature are exceptions to the general rule; that the disease is one of low type, requiring the early administration of stimulants and nutriment. Mr. Brown applied, at the commencement, caustic to the tonsils and fauces, gave calomel and castor oil, and followed them up by dilute acetic acid, being convinced that this acid acts as a powerful stimulant by the kidneys and skin, so as to excite them to their proper functions. He was not prepared at present to state fully the peculiar state of the blood and of the urine under the influence of this acid, but he trusted shortly to lay the result of some careful analyses before the Society. He believed that death was caused either from depression of the nervous system, from disease of the throat, or from the reinoculation of the virus into the system by the external air passing into the lungs, over the viscid secretion of the tonsils and fauces, carrying into the blood the poison, and thus preventing any chance of the disease being eliminated. Mr. Brown than alluded to dropsy, which he had never seen follow the plan of treatment he advocated. In reference to this subject, Mr. Brown laid great stress on the importance of keeping the patient in bed during the stage of desquamation; he dwelt on the necessity of a careful inspection of the quantity and quality of the urine, and mentioned his preference for the microscope, in the examination of it, to chemical processes. He related two cases of very severe malignant disease successfully treated. Mr. Brown thought that the action of the acetic acid was that of a *specific stimulant to the cutaneous vessels*, for as alcohol, ether, chloroform, and all other compounds allied to acetic acid in their chemical constitution, had peculiar and marked influence on the nervous system, he did not see why acetic acid might not have its peculiar influence on some parts of the organism.

Mr. Hird could not regard all the good effects in the cases alluded to as due to the acetic acid. Scarlet fever was sometimes so mild that it would get well without any treatment, whilst in other cases it killed before any medicine could exert its influence. He thought we should be safe in treating the disease on general grinciples.

Dr. Snow considered that the kidney was liable, as well as the skin and tonsils, to partake of the primary affection of scarlet fever, and this was apt to be followed by secondary effects at the end of two or three weeks, probably analogous to the desquamation of the cuticle, which led to congestion of its vessels, and obstruction to its secreting functions. This diseased state of the kidneys caused dropsy, and often inflammation of the serous membranes, and sometimes renal convulsions. Dropsy, if confined to the cellular tissue, or to this and the peritonæum, was not so serious as the other results of the renal affection, and was amenable to treatment. He had seen no case of dropsy after scarlet fever, except where there was evidence of interrupted function of the kidney, and the renal affection preceded the anasarca. It was then only seventeen days since the commencement of one of the cases Mr. Brown had related, and the most frequent time for the appearance of dropsy was about twenty-one days from the beginning of the fever; therefore it yet remained to be seen whether this patient was out of danger, and Mr. Brown might have dismissed other cases who might subsequently have had renal affections.

Dr. Rogers had used the acetic acid, freely and fully combined with bark, in a family of eleven, all affected with scarlet fever. Three of these suffered from dropsy afterwards.

Dr. Willshire said that the present epidemic on the Surrey side of the water did not in general at all approach to the malignant form of the disease, and was followed almost certainly by some form of dropsy. It appeared sometimes without eruption, sometimes without sore-throat, and in sixteen or twenty cases under his care, neither eruption nor sore throat presented themselves, yet dropsy followed. The present epidemic was peculiarly disposed to be followed by rheumatoidal affections. He had never used the acetic acid, but had found the chlorate of potash of most service.

Dr. Ogier Ward referred to the disease as epidemic in Kensington and Fulham. He traced its prevalence to bad drainage. On improving this, the disease was mitigated, and then disappeared.

Dr. Lankester did not think that the acetic acid in Mr. Brown's case had had much efficacy in curing the disease. It must not be forgotten that scarlet fever was a malady that would frequently terminate favourably without any treatment at all. Sometimes he believed the worst symptoms which presented themselves were caused by the treatment; for his own part he did not feel justified in trying the acetic acid, for he could not understand upon what principle it could effect benefit. Hydrochloric acid and chlorate of potash he had found most beneficial, and when in a low state, ammonia.

The discussion was adjourned.

In the course of the evening Dr. Willshire exhibited a handkerchief belonging to a phthisical patient, which was full of holes. He had noticed this in two or three other cases, and could not explain the reason. Many causes had been suggested, such as the tenacity of the dried sputa tearing the linen when it was washed, the use of mineral acids in the medicine, &c.; but none of these seemed to answer in the cases to which he referred.

Dr. Lankester said the holes resembled those which he had seen produced by fungi on linen.

Mr. Brown had noticed the same effect in a case of phthisis under his own care.

Mr. Marshall recollected a paper which was inserted some years since in the *Edinburgh Medical and Surgical Journal*, in which it was stated that the napkins of a child went into holes in consequence of its mother having taken diluted sulphuric acid in her medicine.

Death from a pistol-shot.

Mr. Wade related the case of a man who placed a pistol loaded only with powder into his mouth, and discharged it. The cheeks were literally torn into ribbons, and the lower jaw was fractured; the mucous membrane of the mouth was black. Proper applications were made to the parts; he appeared to be doing well for a day or two, but died suddenly, as Mr. Wade believes, from spasm of the glottis, consequent upon removal to a hospital.

Saturday, November 11, 1848.

Mr. Hird, President.

Case of Albuminuria—The Urine of very low specific gravity, without Dropsy—Ulceration of the Gall Bladder.

The patient was a female, aged 38, who had been subject, for many years, to disorder of the digestive organs. In March last, she suffered very severely from headache and sickness, but her health improved greatly during a subsequent residence in the country. Early in September, soon after her return to London, she was seized with a violent attack of epistaxis, which was with difficulty controlled, and from which she never fairly rallied. I saw her first on October 3d, and found her very pale, greatly emaciated, and suffering from obstinate vomiting, and extreme tenderness in the left hypochondriac region. The urine was pale, clear, and acid; it deposited an abundance of albumen on the application of heat, and was of specific gravity 1008. The vomiting and tenderness were soon relieved, but a convulsive attack took place shortly afterwards; the sensorium became affected; the countenance assumed a peculiarly wild and anxious look, though, on the attention being roused, she was able to understand and answer questions. About ten days before death, the conjunctivæ of both eyes became injected with blood; there was a return of epistaxis, pale coloured blood continuing to ooze from the nose for some hours; and there was hæmatemesis. The convulsions recurred at frequent intervals, and after lingering for a longer period than I ever remember to have seen a patient do, under similar circumstances, death, preceded by coma, took place on October 29th. The urine was usually not deficient in quantity, though, on two or three occasions, none was voided for nearly twenty hours; it became neutral, or even alkaline, but continued to deposit albumen on the addition of nitric acid; and the last time I examined the specific gravity, about a fortnight before death, it had fallen to 1005. On examination after death, the kidneys were found to be smaller than natural, pale, and flabby; the left was smaller than the right. The emulgent artery, where it enters the kidney, was of cartilaginous hardness, and the vein was partially blocked up by a firm mass of fibrine. The divided arteries of the mesentery were rigid and gaping. The liver appeared natural in structure. The gall-bladder was of a deep purple hue, and firm and flesh-like to the touch; on slitting it open, it was found to be filled with a firm coagulum of blood, partially adherent, the source of which was extensive ulceration of the mucous membrane of the fundus and body of the organ. The other viscera of the abdomen presented no unnatural appearance, and unfortunately time did not permit me to examine those of the chest and the brain. On reviewing the case, there could, he thought, be no doubt that the disease of the kidneys was of long standing. Whether it was occasioned by the condition which appeared to prevail in the arterial system, or whether both were the common result of faulty nutrition, it is not easy to decide; but to my mind the latter is the most probable explanation. The hæmorrhagic tendency which prevailed during the last two months of the patient's life is very remarkable.

Placenta Prævia.

Mr. Dunn related a case of placenta prævia, in which hæmorrhage prevailed for some time, but was arrested by plugging the vagina with a sponge dipped in vinegar. The child was delivered by turning. It was to the condition of the placenta, which he now exhibited, that Mr Dunn wished to direct the attention of the Society. The contrast between the *detached* and the *undetached* portions was most striking. While the latter was blanched, and more pale than natural, the former would be seen to be gorged with blood. The source of the hæmorrhage, in such cases, was the great point of practical importance. In reference to this point he brought the placenta for inspection.

The adjourned discussion on scarlatina was resumed. The speakers were, Mr. Clarke, Mr. Wing, Mr. Wade, Mr. Harding, Dr. Webster, and Dr. A. T. Thomson. The speakers, without exception, spoke of the fallacy of attributing to a medicine like acetic acid any peculiar property in curing scarlet fever. The disease was one assuming, under various circumstances, and in the various epidemics, characters so different, that at one time they were totally opposed to those at another. The disease, to be treated successfully, must be handled on the known principles of pathology and physiology. To seek for a particular remedy under such circumstances, as applicable in all cases, was to seek for that which did not exist. No one speaker could believe that the acetic acid had rendered any peculiar service in any of the cases, but all regarded it as an adjunct to more suitable medicines, at best, but of doubtful utility.

At the next meeting, Dr. Garrod will read a paper on some points connected with gout and phthisis pulmonalis.

PARIS ACADEMY OF SCIENCES.

Sitting of November 6, 1848.

MM. Andral, Flourens, and Velpeau made a report on two communications which had been presented on the same subject: the one by M. Miguel, of Amboise, the other by M. Stein, of the Hague, on a method of plugging (*tamponnement*) the genital passages in the case of uterine hæmorrhage in pregnant females. The first was ordered to be inserted in the *Recueil des Savants étrangers*.

M. **Fourcault** read a paper on the progress of the cholera.

M. **Dumas** exhibited a simple and convenient apparatus, constructed by M. Blanqui, for liquefying the gaseous protoxide of nitrogen.

M. E. **Becquerel** communicated, through M. Biot, his further researches on the method of taking a photographic impression of the spectrum, *with its colours*. Last February, M. Becquerel announced this discovery to the Academy, which he accomplished by means of a layer of subchloride of silver formed on a silvered copper plate by the action of chlorine. Subsequently, M. Becquerel found that immersion of the plate in solutions of the chlorides of iron, copper, &c., and of the hypochlorites of soda, lime, &c., produced the same result: he now finds that still better results are obtained by placing the metallic plate in connection with the positive end of a voltaic battery, and immersed in water acidulated with hydrochloric acid, so that the chlorine disengaged may, in its nascent state, act upon the entire surface of the plate. At present the *paintings by nature* thus obtained can only be kept in the dark: exposure to light produces instant decomposition of the chloride of silver, and the colours disappear.

The permanency of the colours produced still remains therefore a desideratum in the science of photography.

Correspondence.

PLAN FOR THE REGISTRATION OF CASES OF CHOLERA.

Sir,—I forward for publication in the **London Medical Gazette**, the Plan for Uniformly Reporting Cases of Cholera, drawn up by the Committee of the Western Medical and Surgical Society appointed to carry out the Society's Resolutions of the 13th instant. It is intended that, in the course of this, or early in next week, copies of this plan shall be in the hands of every practitioner in the district to which the Society intends to limit its operations. It is known that a great number—it is hoped and believed that all—to whom the forms are distributed will take the trouble of filling them up with the details of any case which may occur, and of returning them to the Society. It will be the business of the Committee hereafter to tabulate and analyse the returns thus obtained, and to make public the results.

Of the merits of the plan itself for eliciting the information required, it would not become its authors to speak. I can only say, on their behalf, that it has been drawn up and revised with the greatest deliberation, and with an anxious desire to omit nothing important, nor to introduce anything which might complicate the appearance of the table, or give unnecessary trouble to the observer. Yet the Committee are deeply sensible that it is but an imperfect performance; and while they claim for it the indulgence due to a first attempt (for they can find no record of any attempt to carry out an inquiry *in detail* in the manner proposed, either in any department of the public service, or in the proceedings of any society), they anxiously look for suggestions from the profession which may enable them to render it more complete, and more fit for its purpose.

Besides an accurate report of cases of cholera, it is felt by the Committee to be highly necessary to obtain information as to the nature and peculiarities of the diseases now, and for some time past, prevalent in the district—information which may throw light on what is termed the "epidemic constitution" of the period; and especially to have some return of cases of severe diarrhoea, and other disorders, always more or less prevalent during an epidemic of cholera, and which may fairly be regarded as manifestations of the peculiar virus short of its full effect, the perfect development of the disease. To arrive at this, and also at information on various points respecting cholera itself, to which it is difficult to call attention in a table, a circular letter will be drawn up, and will follow, as early as possible, the distribution of the forms.

I trust that the plan now set on foot by our Society will be taken up by other societies and associations throughout the kingdom. No time is to be lost: already, in England alone, nearly 200 cases have occurred, of many, perhaps of most, of which no record is preserved; and fresh cases are occurring every day. I hope, sir, to have your powerful aid in stirring up the profession to the requisite exertion.

I have only to add, that to the secretary of any society or association who will apply to me, by letter or personally, I shall have great pleasure in giving every explanation in my power, both as to manner of working the scheme, and as to the expense, &c. necessarily attending it.

I have the honour to be, sir,
Your faithful servant,
Edward Cator Seaton, M.D.
Hon. Sec. to the Western Med. and Sur. Society.

77, Sloane Street, Oct. 1848.

Number of Case—Date—Name and Occupation—Sex—Age—Habits and Previous Health—Residence—Nature of Locality.

History of the Case up to the Appearance of the Characteristic Symptoms.—Day and hour of seizure? Supposed exciting cause of the attack? Diet within the preceding 24 hours? State of Stomach? Bowels? Other ailments? Medicine already taken?

Characteristic Symptoms.—Hour of first appearance? Countenance, expression of? Appearance of the Eyes? State of the Pupils? Tongue—Appearance and condition of? Temperature of? Skin, generally or locally—Appearance of? Condition of (as to secretion)? Temperatare of? Pulse—Volume and character of? Number of, whether felt at the wrist? in the Axilla? in the Carotids? Heart—Stethoscopic examination of? Voice—As to tone and power? Respiration—Frequency of? Free or laborious? Relative duration of inspiration and expiration? Breath—Temperature of? Vomiting—Its character and frequency? Stools — Their quantity and frequency? Their character, colour, and consistence? Cramps—Nature, frequency, and parts affected? Thirst—Urgent or tolerable? Urinary Secretions—as to heat and cold? as to pain? Nervous System—Affections of? Degree of Consciousness? Deafness? Noises in the Head? Loss of Vision? Convulsions? Termination of the Case—in gradual or sudden recovery—in consecutive fever—or in death?

Post-mortem Examination — hours after Death.—External Appearance of the Body—Colour? Temperature? Rigidity? Any muscular Twitching after Death? its duration? Encephalon—Degree of congestion? Effusion—its nature and seat? Other lesions? Thorax—Pericardium? Heart—Degree of rigidity and flaccidity of each ventricle? Contents of each ventricle as to quantity? Condition of Blood as to fluidity and colour? If fluid, does it coagulate on exposure? Lungs—General condition and appearance of? Abdomen—State of the Peritoneum, and of the Abdominal Cavity? Liver—Condition and appearance of? Gall Bladder—Nature and quantity of its contents? Gall Ducts—Condition of? Stomach, Duodenum, Small Intestine, Cæcum, Colon, and Rectum—Contents of, respectively? are they acid or alkaline? Condition of the Mucous Membrane of, respectively? Spleen? Kidneys? Urinary Bladder—as to contents and degree of contraction?

PROPOSED MONUMENT TO HARVEY.

Sir,—A Committee has recently been formed here, whose object it is to raise funds for the erection of a monument to the commemoration of Harvey in his native town.

It is considered that an application to the medical profession, through your columns, will have the effect of making the subject generally known amongst its members, and of stimulating each and all to exert their influence with their friends and patients towards the fulfilment of this undertaking.

The Committee therefore request the favour of your kind co-operation and assistance, feeling convinced that it is only by such means that success can be expected to result.

The Earl of Radnor has kindly granted the most eligible site of ground on his Folkstone estate, and the subscriptions for this town at present amount to about twenty-five pounds.

The Committee is composed of the mayor, the magistrates, and the medical men of the town; and the manager of the National Provincial Bank, Folkstone, is the treasurer.

I am, sir,
Your very obedient servant,
Michael Minter,
Hon. Sec.

Folkstone,
Oct. 29, 1848.

Medical Intelligence.

THE CHOLERA AT ROTTERDAM.

A letter from Rotterdam of the 6th inst. states that the cholera, which appeared there on the 1st inst., has raged with great violence. On the preceding day 41 new cases were declared, and 29 deaths, whilst there were but seven recoveries. During the previous five days there had been 298 cases, 157 died, 121 recoveries, and 16 remained under cure.

THE CHOLERA IN HAMBURGH AND DANTZIC.

Only 16 cases of cholera had occurred in Hamburgh since the first of the month, making the total number of cases 3,362, of which 1,671 have been fatal. A letter dated Dantzic, the 3d inst., states that the cholera is raging in that city with intense violence. There were no fewer that 62 new cases in one day. 388 individuals had already been attacked, of whom 185 died, 34 had recovered, and 179 were under care. In the small town of Gartz, in the district of Stettin, the cholera has carried off 102 persons out of a population of 700.

ALLEGED APPEARANCE OF CHOLERA IN FRANCE.

It is stated in a letter from Calais that two cases of cholera have occurred there, but that the character of the disease is much less violent than that which carried off so many persons 16 years since.

THE CHOLERA AT GLASGOW.

Two fatal cases of cholera have occurred in this city. On Saturday afternoon a working gardener, named Gordon, was seized; he did not get medical assistance till the following morning, but died in the course of the day. The man's residence was at Burnbank, a most filthy locality in the western part of the city. Yesterday afternoon medical assistance was called in the case of a man named Morton, a calenderer, residing in Greame-street, a low-lying, filthy locality, surrounded by tanpits, &c. It was a decided case of cholera, and he died at 4 o'clock this morning. This man had been ill since the preceding Friday, and had not asked for medical aid till yesterday. The two cases have occurred two or three miles apart. As yet no other well-authenticated cases have been reported.

THE CHOLERA IN SOUTHWARK—APPOINTMENT OF ADDITIONAL MEDICAL OFFICERS.

In consequence of the apprehensions entertained of the spread of cholera in the close and crowded streets of St. Mary, Newington, a special meeting of the governors and guardians of the poor was held at the workhouse on Tuesday evening, with the view of determining the measures to be adopted to insure immediate and efficient medical attendance upon any of the poorer classes when attacked by the epidemic. After some discussion, it was determined to elect ten medical officers in addition to those already appointed, one for each particular locality, but each gentleman being required to act in any part of the parish should it become necessary. The fee was fixed at 10s. 6d. each case. The following gentlemen were accordingly appointed:—Mr. Boddy, 12, Saville Row, Walworth; Mr. Marshall, 9, Marlborough Place; Mr. Nolan, 11, Church Row, Newington; Mr. Hicks, 4, High Street; Mr. Mason, High Street; Mr. Howitt, 5, Apollo Buildings, Walworth; Mr. Darville, Dean's Row, Walworth; Mr. Crisp, Charlotte Row; Mr. Townsend, Newington Causeway; Mr. Lewis, 4, Brighton Place, New Kent Road; Mr. Rathbone, Webb's County Terrace; and Mr. Hawkins, Great Dover Street.

ANOTHER CASE OF DEATH FROM THE INCAUTIOUS USE OF CHLOROFORM VAPOUR.

On Tuesday last, Mr. Carruthers, a gentleman of fortune, residing at Dormount, Annan, lost his life from the incautious application of chloroform. It appears that the deceased was afflicted with asthma, and having found relief from inhaling the subtle vapour, had frequent recourse to it. Being an expert angler, and extremely fond of piscatorial recreation, he sometimes employed himself rather late in adjusting his books, and making artificial flies. On Tuesday morning he was found sitting at the table apparently following this occupation, in the position in which his servant had left him on the preceding night, but it was soon discovered that the unfortunate gentleman was quite dead, and to all appearance life had been extinct for some hours. On the table was the evidence of the fatal occurrence—the handkerchief which he had used in applying the chloroform to his mouth. His death forms another melancholy instance of the folly of employing such dangerous agents for the purpose of obtaining a temporary relief from pain.—*Carlisle Patriot.*

ORDER RESPECTING THE NON-APPEARANCE OF CANDIDATES FOR EXAMINATION AT THE ROYAL COLLEGE OF SURGEONS AND APOTHECARIES' HALL.

We are informed, that in consequence of the disappointment to which the Court of Examiners of the College of Surgeons, and of the Apothecaries' Society, have been subjected by the non-attendance of candidates on the day appointed for their examination for the diploma, the Courts have come to the following resolution:—"That in future, when a candidate for the diploma shall fail to attend for the purpose of examination, on the day for which he shall have entered his name, and received a card of admission, his name, as heretofore, shall be placed at the bottom of the list of candidates for the diploma, and he shall, further, not be admitted to examination within the period of *one month* from the date of his so failing to attend."

UNIVERSITY OF LONDON.

B.M. SECOND EXAMINATION.

PASS EXAMINATION.—1848.

Tuesday, November 7.—Morning, 10 to 1.

Surgery.

Examiners, Sir Stephen Hammick and Mr. Cæsar Hawkins.

1. What are the appearances and altered conditions of the Leg, when in a state of common inflammation? Give the various terminations of inflammation; describe the symptoms of each termination respectively, with the mode of treatment, both local and general, through the different stages of the disease of this part, up to a favourable or fatal issue.

2. Describe the system and treatment, both locally and generally, of a wound of the Abdomen of moderate size, accordingly as there is merely a wound of the parietes opening the peritoneal cavity; or a wound

of the abdominal walls with protrusion or uninjured intestine, or omentum, or both; or such protrusion of small intestine with a slight wound of its coats, or with a large wound, or with entire transverse division of the canal.

3. What are the symptoms and effects of Gonorrhœa in the male sex, in mild, or irritable, or acute cases? Give the treatment which should be adopted under these several circumstances for their different stages and symptoms of the complaint.

Afternoon, 3 to 6.

Medicine.

Examiners, Dr. Billing and Dr. Tweedie.

1. Describe the anatomical characters and progressive changes in the cerebral tissue in cerebritis.

2. Sketch shortly the functional diseases of the stomach, with their diagnostic symptoms and treatment.

3. Give the differential diagnosis of pleurisy and pneumonia.

4. Describe the various forms of insanity, with the treatment, moral, remedial and dietetic.

5. Give the symptoms, anatomical characters and treatment of pericarditis.

6. Sketch the principal forms of cutaneous affections of the scalp, with the treatment applicable to each.

Wednesday, November 8.—Morning 10 to 1.

Midwifery.

Examiner, Dr. Rigby.

1. What are the symptoms approaching miscarriage?

2. What are the symptoms of approaching labour, and those which simulate it?

3. What is the diagnosis, prognosis, and management of a nates presentation?

4. Describe the forms, symptoms, and treatment of placenta prævia.

Afternoon, 3 to 6.

Forensic Medicine.

Examiners, Prof. Brande, Dr. Pereira, and Dr. Rigby.

1. What is the nature of the noxious emanations from sewers and cesspools? What are the means of preventing their production; and, when produced, how is their influence upon the sanitary condition of the neighbourhood most effectually guarded against?

2. Enumerate the principal inorganic poisons; annex to them their chemical symbols; state by what tests they are most unequivocally recognised, and what are their respective antidotes.

3. What are the symptoms and post-mortem appearances of slow arsenical poisoning? What are the maladies with which the arsenical disease is liable to be confounded; and what are the circumstances calculated to aid you in your diagnosis?

4. The body of a person suspected to have been poisoned by arsenic having been exhumed, and the stomach and intestines being found wanting (having been removed prior to interment), you are required to state how you would proceed in order to determine whether the suspicion is or is not well-founded.

5. A woman recently married becomes pregnant; suspicions are excited that it is not her first pregnancy: how will you decide the question?

6. What are the evidences of recent delivery?

Selections from Journals.

PATHOLOGY.

A CASE IN WHICH THE PHYSICAL SIGNS OF THE POSITION OF THE HEART WERE DECEPTIVE. BY DR. PICKFORD.

L. L., a labourer, æt. 55 years, had recently suffered from a severe attack of sciatica, but was otherwise a strong and healthy man. According to his account, for some time past he had experienced distressing paroxysms of dyspnœa. On the night of 26th August, 1845, these became greatly aggravated.

When seen by Dr. Pickford, he was in bed, in a half-sitting posture, leaning towards the left side, breathing laboriously; the countenance livid and bloated, expressing intense anguish; his skin bedewed with perspiration; his pulse frequent and small; the lower extremities, as high as the knees, œdematous. Closer inspection furnished the following information:—The left side of the chest was not moved in breathing—it was inclined forward; the left hypochondrium remarkably full, not manifesting the slightest fremitus; percussion gave an entirely dull sound from the clavicle down to the last rib, except that under the clavicle there was a faint trace of resonance, and some very indistinct and doubtful breathing; otherwise no respiratory murmur detectible. The right side was sonorous—in the lower part behind even somewhat tympanitic; in the upper part there was a loud respiratory murmur; in the lower part, here and there some mucous rattle corresponding with a difficult cough, attended with a scanty, thin, mucous expectoration.

Between the cartilages of the third and fourth ribs, to the right of the sternum, could be felt a somewhat feeble impulse of the heart equal to the force of the pulse; in the same spot the heart's sounds could be heard, as at its apex: hence, also, in a triangular space bounded by the clavicle above the sternum internally, and outwardly by a line drawn from the middle of the clavicle, percussion gave but little sound: none at all, indeed, in the middle and lower part of this space. Hence it was concluded that the heart had been forced to this spot out of its proper situation by extensive empyema of the left side.

The patient, from the painful urgency of the sense of suffocation, requested to be relieved by any means whatever. More than mere relief one could not expect from the patient's condition: expansion of the lung, if even paracentesis were performed, could scarcely be hoped for, since the disease, from June last, had been subjected only to a mere symptomatic treatment, for no other name can be given to a treatment which, began by an emetic, was varied with an occasional purgative, some morphia, and a little compound camphor liniment rubbed on the chest.

The poor fellow dreaded a return of his former anguish, and urged the performance of the operation, which at least afforded him a chance of at all events temporary relief; it was therefore performed the next morning, in the fifth intercostal space, about an inch and a half from the left nipple. Six pints of thickish, yellowish, albuminous fluid, containing fibrinous clots, were evacuated. By permitting a gradual flow the patient bore it well, and felt relieved; the diaphragm rose to its proper position, but the heart's impulse continued to be felt as before.

The relief lasted only until night; the patient sank, and died at 8 o'clock the next morning.

On examining the chest, about five pints of fluid and coagulated fibrin were found on the left side of the chest. The lung was bound down to the spine by a tough membrane; the upper sixth was entirely free from air, being covered and held down by the thick pseudo-membrane. But there were other more remarkable changes: in the triangular space, where diagnosis had pointed out the position of the heart, was seen a body which seemed to be a very thin expansion of the pericardium, but which, on further investigation, proved to be nothing more than a membranous enlargement of the left lobe of the thyroid gland, extending downwards and outwards beneath the clavicle, containing colloid matter. Closely attached to this tumor was the pericardium metamorphosed into a dense felt-like substance, three lines in thickness. The right side of the heart was somewhat dilated; the heart itself soft and pale, its parietes not hypertrophied; the valves were healthy, but bound down by adhesion. It was necessary to peel off the pericardium from the surface of the heart; it was also attached behind and to the left to the compressed lung; forwards and to the right it adhered to the thyroid tumor, and by this adhesion the apex of the heart had been dragged forwards, so that its impulse and sounds were transmitted to this part. The lungs were free from tubercle; the right was loaded with blood, and œdematous.

This examination, therefore, demonstrates that such an unusual combination of circumstances may occur as shall altogether deceive us as to the physical signs of the situation of the heart; it also divulges the results of a neglected pericarditis and pleuritis.—*Dr. Pickford, in Henle's Zeitschrift.*

X

ON THE SIGNS OF DISEASED HEART AFFORDED TO THE HAND LAID OVER THE PRÆCORDIUM. BY PROF. JAKSCH.

THE purring tremor (*fremissement cataire*) perceived in certain affections of the heart, is felt most distinctly when the flat hand is laid over the part of the præcordium corresponding to the point of the heart's impulse. When this peculiar tremor is dependent upon narrowing of the left auriculo-ventricular opening, it is perceived at the period corresponding to the diastole of the heart. Dr. Jaksch, however, states that he has observed it in cases of insufficiency of the aortic valves. For determining to which of these morbid conditions the tremor during the diastole is in any case due, he points out the following diagnostic signs:—If it occurs when the impulse is feeble, the heart broad (as indicated by increased lateral dulness on percussion), and the second sound increased, it is dependent on narrowing of the left auriculo-ventricular opening: if, on the other hand, it coincides with an increased impulse, an hypertrophied left ventricle (as indicated by a tremulous impulse and increased dulness, in the longitudinal direction, on percussion), and with absence of the second sound of the heart, it may be considered as most probably dependent upon imperfection of the aortic valves. In cases in which a contracted left auriculo-ventricular opening coincides with imperfect aortic valves, a purring tremor accompanying the diastole of the heart is sometimes observed coincidently with an increased impulse. The diagnosis of such cases is rendered sufficiently easy by the increased second sound audible in the pulmonary artery, the enlargement of the heart in its longitudinal and transverse direction, and the absence of the second sound from the aorta and the carotid arteries.

It is not uncommon, especially after pericarditis, that peculiar tremors or vibrations are produced within the pericardium, and may give to the hand laid over the region of the heart a sensation of grating, scraping, creaking, or even buzzing. The existence of previous pericarditis, the absence of change of form of the heart, the want of rhythm, and the variableness of the morbid sound, preclude much risk of error in the diagnosis.

By means of the hand laid over the præcordium, Professor Jaksch has perceived vibrations synchronous with the systole of the heart. 1. In cases of narrowing of the aorta from rigid semilunar valves. 2. In cases of dilatation, thinning and relaxation of the portion of the aorta immediately above the semilunar valve. 3. In aneurismal dilatation of the ascending aorta, accompanied by roughness of the internal surface of the vessel. 4. In some cases of true aneurism of the ascending aorta, with roughness of the orifice or internal surface of the same. 5. In a case in which numerous tendinous bands were stretched across the left ventricle near the orifice of the aorta. 6. In a case of perforation of the inner division of the bicuspid valve. 7. In inefficiency of the bicuspid valve, in consequence of rupture of some of the tendinous cords. 8. In narrowing of the ascending aorta. The sounds dependent upon disease of the aorta are perceived most distinctly when the hand is placed in the middle of the sternum, and is thence carried upwards and to the right, in the direction of the aorta.—*Oesterreichische Medecinische Wochenschrift.* Δ

FATAL CASE OF INFANTILE PNEUMONIA.

The following case may serve as a good illustration of the peculiar features of pneumonia as it occurs in infants, and the difference both in its symptoms and its morbid anatomy from that of adults.

An infant, aged four months, was with its mother admitted into the Necker Hospital. The child was labouring under measles, and for some time past it had had occasional slight fits of hooping cough. The measles went through their course without any unusual occurrence, except that on the eighth day of the disease, and before the eruption had entirely declined, violent fever, accompanied with profuse diarrhœa, supervened. The respiration became frequent, and slightly embarrassed; the pulse strong; skin warm; cough diminished. Pneumonia was at first apprehended, but there were no physical indications thereof to be detected; and as the diarrhœa continued profuse, it was considered that the fever was symptomatic of enteritis.

On the next day the oppression in the breathing had greatly increased; the distension of the nostrils great; pneumonic costo-abdominal furrows very distinct; fever more acute, and diarrhœa decreased. It was now impossible to misinterpret these general symptoms, though physical signs were still wanting, beyond the slightest mucous râle, not always audible; and the respiratory murmur was somewhat indistinct: there was no dulness on percussion.

The infant died on the seventh day after the access of the preceding symptoms, without any auscultatory signs having been manifested.

Examination of the body, made twenty-four hours after death, showed inflammatory congestion of the bronchial glands. Several distinct patches of pneumonia, advanced to the second stage, in the upper lobes of both lungs; in the middle lobe the inflammation was marginal, in the inferior lobes general lobular pneumonia, in the granular stage; no depositions of pus. The lungs were free from tubercle throughout. The inflamed portions sank when immersed in water.

In the preceding case we see, as in infants generally, that the pneumonia is seated in lobules, not in lobes, as with adults; and, as often occurs, the inflammation proceeds without other than general symptoms, auscultatory signs being entirely absent.—*Bulletin Général de Therapeutique.*

⁂ We apprehend that the absence of physical signs is not so rare as the preceding remarks would warrant; the presence of pneumonia in infants is very frequently indicated by mere increase of intensity in the respiratory murmur, arising out of the fact of its lobular seat causing a compensating activity of respiration in the adjoining lobules. We have seen this occur to the extent of producing emphysema of the upper lobes in the course of a very few days. In one case it was found on post-mortem examination that rupture of the air cells on the surface had occurred during coughing, and the air escaping at the root of the lung into the mediastinum, quickly permeated the subcutaneous cellular tissue, producing emphysema of the whole integuments of the head and the upper half of the body. Increased dyspnœa followed, and the child died in the course of twelve hours. χ

ON THE PREVENTION OF BED-SORES.

BY DR. BERNARD.

It is well known to every practitioner, that although the most timely precautions may be adopted, and the most skilful means directed towards their prevention, yet they will (in opposition to every exertion) make their appearance. We may succeed often by stimulating applications and other auxiliaries to interrupt their progress; yet so low are the powers of life in some cases, and so great the loss of nervous energy, that the parts subjected to pressure quickly fall into a state of sphacelus. To such an extent was this tendency manifested in one case which I had lately under my care, that not only the integuments and subjacent cellular tissue over the sacrum, spinal processes, and hips, sloughed, but even those parts of the body which come occasionally in contact (as the knees, &c.) were affected in like manner. To avert so great a calamity, we must call to our assistance every available remedy. As a matter of the first importance, we should be satisfied that the nurse in attendance on our patient has sufficient experience; as, without proper attention on her part, and implicit obedience to the physician's directions, his best efforts will be frustrated. In protracted fevers the physician should not even depend on the nurse's watchfulness: he should make it a rule to examine daily those parts subjected to pressure.

When the first blush of unhealthy inflammation makes its appearance (which is indicated by a livid colour in the integuments) we should take care that all pressure from the parts be immediately removed. This can be done either by the patient's position being changed, or by the aid of bolsters or air-cushions; and if the case is one likely to be protracted, the hydrostatic bed of Arnott should be at once procured. The simple plan recommended by M. Purefoi (as lately described in the *Gazette Médicale*) is well worthy of the attention of the profession. He uses a cow's bladder, softened in warm water: this, being oiled and partially inflated, is placed under the part suffering from continued pressure. The effect of this support (in a case of fractured leg) exceeded his expectations. He says—"From the moment the patient experienced the change, he cried out that he was in heaven, and to the end of the fracture he felt no more pain, nor was the bladder changed but once during the month this was effecting. Another patient, who had gangrene from infiltration of urine, had to rest almost entirely on the sacrum for two months, and was saved any pain or ulcerations of the part by having placed under it a bladder, prepared as above, and wrapped in a towel." What renders this contrivance valuable is its simplicity and cheapness; it forms a very manageable substitute for the hydrostatic bed of Arnott, and will, I am convinced, add more to the comfort of our patients than a more costly article.

In addition to these preventives, others to stimulate the surface, and excite the dormant capillaries to a more healthy action, should be diligently used. The lotion recommended by Sir B. Brodie is admirable for this purpose. It consists of two grains of bichloride of mercury to an ounce of proof spirit. These two contrivances, if used at the same time, will be found invaluable in the prevention of bed-sores. The lotion of Sir B. Brodie, by its stimulating properties, will serve to thicken the cuticle and render it more efficient to resist injury; whilst the inflated bladder of M. Purefoi, by its softness and elasticity, will preserve a uniform pressure on the surrounding parts, and allow the free circulation of blood through the capillaries at the surface of the body.—*Dub. Med. Press*, 1848.

POTASH ESSENTIAL TO AN ANTI-SCORBUTIC DIET.

All fruits contain potash in abundance, as oranges, lemons, limes, grapes, gooseberries. &c., and these are all highly anti-scorbutic, Potatoes, also, which perhaps are the most valuable as an addition to a dietary for the purpose of preventing scurvy, and owing to the scarcity of which article this disease has been so prevalent within the last two years, contain, as analyses proves, a very large amount of potash, and when boiled (not too much, and unpeeled), still retain most of that ingredient: this also accords with the fact that potatoes, when cooked in the ordinary way, are anti-scorbutic, and at the same time explains why the hard core of that tuber, which is so much liked by the Irishman, is most powerful in preventing the occurrence of scurvy (see Dr. Lonsdale, in Edinburgh Monthly Journal for August). Milk, which is undoubtedly a good anti-scorbutic, and upon which the young of animals are for some time sustained, contains a very large proportion of potash salts compared with those of soda, being an exception to the relation between these two classes of salts which is found in the other animal fluids—a pint of milk (London) which had a sp. gr. of 1·021, contained 6·180 grains. This was probably considerably diluted, as the usual sp. gr. is from 1·026 to 1·030. Berzelius's analysis gives about 9 grains; but the sp. gr. of the milk which he analysed was about one-third greater. Fresh meat also contains potash in rather large proportion; and there is no doubt that animals, such as the carnivora, living entirely on this substance in its uncooked state, take an amount of potash quite sufficient for the wants of the system. When we examine other articles noted for preventing or curing the disease in question, we find that potash enters into the composition of all in considerable quantities: this is true with regard to cabbages, turnips, onions, garlic, leeks; and hence their efficacy, and also of pickles and sour-krout made from them. The same is the case with the young tops of plants, as of the Pinus sylvestris, &c., when a decoction is made. Potash is also found in spruce beer, wort, malt liquors, wines, especially the lighter description, which contain this substance in the form of a bitartrate, but which becomes deposited in the stronger varieties.—*Dr. Garrod, Edinburgh Monthly Journal*, 1848.

RESTRAINT AND NON-RESTRAINT IN INSANITY.

The debate upon the comparative merits of the restraint and non-restraint systems of practice of the present day, about which so much time and talent have been expended, we cannot but regard as a mere quibble, which has been agitated, exaggerated, and caricatured by over-sensitive benevolence, and refined and timid prejudice. What is the restraint system of the present day as practised in all the continental asylums, and in most of the leading asylums of our own land? It may be stated in the following terms: that, inasmuch as lunatics do occasionally present the awful spectacle of the consentaneous supremacy of destructive impulses with abeyance of moral liberty or control over the actions, forcible means must be resorted to, in order to prevent the gratification of the impulse in question; and inasmuch as the judicious use of ingenious mechanical contrivances is more humane, certain, constant, and less painful in its operation than the hands, vigilance, and forcible control of attendants, the treatment by mechanical restraint is to be preferred to the living restraint of attendants. And surely there is nothing in such a proposition to call up so much cavil and warm animadversion as the advocates of the opposite view have been in the habit of putting forth. Moreover, in discussing the question, they have constantly identified the modified, the enlightened, the kind and necessary restraint of the present day, with the dreadful details of mismanagement of the days when Pinel and Esquirol began their labours of love and pity. And the public, thus misled, have learned to associate the word *restraint* with every species of suffering and barbarity, and to see an approach to Utopia in the doctrine of non-restraint; little thinking that in avoiding Scylla they are rushing upon Charybdis.—*Dublin Quarterly Journal.*

MORTALITY OF THE POPULATION OF PHILADELPHIA AT DIFFERENT AGES.

It appears that, in 1840, when the census was taken by the general government, the mortality under the 10th year, compared with the population of and under that age, was 3·7 per cent., or 1 death to about 27 of the population at the age designated. The deaths between 10 and 20 were only 1 in about 260 of the inhabitants of that period of life! Those between the 20th and 30th years of age, were 1 in about 102; between the 30th and 50th years, 1 in about 57; between the 50th and 100th years, 1 in 22; whilst those of and over 100 were 1 in 6 of the inhabitants.

The mortality in the first year of life was 5,171, which is about 47 per cent. of the whole mortality under the 20th year (10,979), and about 27 per cent. of the mortality at all ages. The deaths under the 5th year amounted to 9,394, constituting about 86 per cent. of the whole mortality under the 20th year, and leaving but 16 per cent. for the succeeding 15 years of life. Compared with the total mortality at all ages, that under the 5th year comprises 49 per cent., and that under the 20th year, 56 per cent.—*American Journal of Med. Sciences*, July.

BOOKS & PERIODICALS RECEIVED

DURING THE WEEK.

Elements of Anatomy. By Jones Quain, M.D. 5th Edition. Edited by Richard Quain, F.R.S.; and William Sharpey, M.D. F.R.S. In 2 vols. Vol. II.

Physiological, Anatomical, and Pathological Researches. By John Reid, M.D. Professor of Anatomy, &c. in the University of St. Andrews.

Dr. Tanner's Memoranda on Poisons.

Medical Jurisprudence. By Dr. Alfred Taylor. 3d Edition.

Surgical Anatomy. By Joseph Maclise, Surgeon. Fasciculus 1.

British Record of Obstetric Medicine, &c. Edited by Dr. Clay. No. 22, Nov. 15.

Report on the Edinburgh Royal Maternity Hospital, from 1844 to 1846. By J. Y. Simpson, M.D.

Reflections on Organization, or Suggestions for the Construction of an Organic Atomic Theory. By Henry Freke, A.B. M.B.

Clinical Lectures, delivered at Mercer's Hospital, Dublin. By James F. Duncan, M.D. &c.

Journal de Chimie Médicale. Nov. 1848.

AMERICAN WORKS.

The Transactions of the American Medical Association. Instituted 1847. Vol. 1.

The American Journal of the Medical Sciences. No. 32, Oct. 1848.

Medical Lexicon. By Robley Dunglison, M.D. &c. 7th edition. Philadelphia, Lea and Blanchard.

An Analytical Compendium of the various branches of Medical Science, for the Use and Examination of Medical Students. By John Neill, M.D. &c.; and Francis Gurney Smith, M.D. &c. Ibid.

On Bandaging, and other Operations of Minor Surgery. By F. W. Sargent, M.D. Ibid.

Medical Chemistry, for the Use of Students, &c. By D. P. Gardiner, M.D. Ibid.

An Inquiry into the Degree of Certainty in Medicine, &c. By Elisha Bartlett, M.D. Ibid.

METEOROLOGICAL SUMMARY.

Mean Height of Barometer				29·87
" " Thermometer[a]				40·3
Self-registering do.[b]	max.	56·6	min.	24·
" in the Thames water	—	44·8	—	38·8

[a] From 12 observations daily. [b] Sun.

Rain, in inches, 0·11: sum of the daily observations taken at 9 o'clock.

Meteorological.—The mean temperature of the week was 2°·6 below the mean of the month.

BIRTHS & DEATHS IN THE METROPOLIS

During the week ending Saturday, Nov. 11.

Births.		Deaths.		*Av. of 5 Aut.*	
Males....	673	Males....	586	Males....	581
Females..	694	Females..	579	Females..	573
	1367		1165		1154

Causes of Death.		Av. of 5 Aut.
All Causes	1165	1154
Specified Causes	1149	1149
1. *Zymotic* (or Epidemic, Endemic, Contagious) *Diseases* ..	414	270
Sporadic Diseases, viz.—		
2. Dropsy, Cancer, &c. of uncertain seat	37	52
3. Brain, Spinal Marrow, Nerves, and Senses	181	127
4. Lungs and other Organs of Respiration	147	222
5. Heart and Bloodvessels	45	38
6. Stomach, Liver, and other Organs of Digestion	71	67
7. Diseases of the Kidneys, &c.	12	12
8. Childbirth, Diseases of the Uterus, &c.	5	14
9. Rhematism, Diseases of the Bones, Joints, &c.	14	8
10. Skin, Cellular Tissue, &c.	2	2
11. Old Age	37	64
12. Violence, Privation, Cold, and Intemperance	21	32

The following is a selection of the numbers of Deaths from the most important special causes:

Small-pox	34	Paralysis	21
Measles	17	Convulsions	51
Scarlatina	135	Bronchitis	58
Hooping-cough	27	Pneumonia	68
Diarrhœa	26	Phthisis	127
Cholera	62	Dis. of Lungs, &c.	7
Typhus	65	Teething	7
Dropsy	15	Dis. Stomach, &c.	11
Sudden deaths	7	Dis. of Liver, &c.	14
Hydrocephalus	22	Childbirth	2
Apoplexy	30	Dis. of Uterus, &c.	2

Remarks.—The total number of deaths was 11 above the weekly autumnal average. See page 841.

NOTICES TO CORRESPONDENTS.

The communications of Dr. Jamieson, Sir Chas. Scudamore, Mr. Swan, Mr. Hanks, and Chirurgus, will be inserted in the following No.

The two cases of Cholera referred to by Mr. Owen, in the report of the South London Medical Society (page 804), occurred in the practice of Mr. Unwin, of Brixton Road. Their duration was respectively eighteen and thirty-six hours.—Our correspondent's wish respecting his paper shall be attended to.

We have been unavoidably compelled to postpone Dr. Milroy's continuation paper on Cholera until next week.

Dr. Gavin.—The proposed exchange shall be commenced with the new volume of the Medical Gazette. A note will be sent.

We shall have much pleasure in giving insertion to Dr. James Arnott's remarks on Congelation as a remedy for disease. Several communications from other correspondents are in type, and as soon as these have been published, it shall appear. A proof will be sent.

Insurance Offices and Medical Fees.—A correspondent informs us that, in addition to the Westminster, the following Offices are in the habit of remunerating Medical Referees:—

The Medical Invalid Office, 15, Pall Mall.—The Britannia, Princes Street, Bank.—The Commercial and General Assurance Association, 112, Cheapside.

It is suggested that, in the new edition of the Medical Directory, those Offices which thus act with justice to the profession should be placed in a separate list, with a special announcement to this effect.

Corrected formula for Pills prescribed by the Edinburgh Colleges (see page 816.) Formula, No. 2: — R. Tannini, dr. ss.; Opii, gr. xij.; Pulv. Capsici, gr. xvj.; Spirit. Rectif. gtt. v.; Conserv. Ros. gr. x. Ft. pilulæ xvi. Sign. Astringent Pills with Opium.

Dr. Mackenzie (Archangel).—The report on the Cholera in Russia has been received.

The reports of cases forwarded by Mr. Balman of Liverpool, and Dr. Hill of Peckham, shall have early insertion.

Received.—Mr. James.—Dr. Merryweather.—Mr. Durden.—Mr. Moffatt.—M. P.—Philomedicus.

THE GENERAL INDEX.

We have to announce to our Subscribers that a General Index to the *first* 40 *Volumes* of the London Medical Gazette will, it is calculated, form a large Volume of about 700 pages. The cost of the Index Volume, respecting which many inquiries have been made, will be Twenty-four Shillings; and it is proposed to commence it so soon as the Names of *Five Hundred Subscribers* have been obtained.—The printers, Messrs. Wilson and Ogilvy, 57, Skinner Street, will receive the Names of Subscribers.

Lectures.

COURSE OF SURGERY,

Delivered in the years 1846 *and* 1847,

By Bransby B. Cooper, F.R.S.
Surgeon, and Lecturer on Surgery at Guy's Hospital.

Lecture XLIII.

Genito-urinary Organs (continued).—*Stricture of the urethra—Definition—Spasmodic stricture—Urethra not muscular—Spasmodic more properly termed irritable stricture—Often constitutional—Treatment — Gonorrhœa a frequent cause — Diagnosis — Treatment—Mixed stricture — Treatment — Suppository—Gentle use of bougie—Permanent stricture—Definition—Causes — Bulb of the urethra most liable to stricture—Does not occur in membranous part—Difficulty in passing urine—Neglect of patients in seeking medical advice—The probable consequences of delay—Symptoms of stricture—Examination by the bougie—Retention of urine—Means of overcoming the obstruction—Dilatation by the bougie—by the injection of water—Application of caustic—Precautions—Introduction of catheter—Use of cutting instruments — Puncturing the bladder, per rectum, above the pubes—Case—Cutting through the perineum—Advantages of this operation—Case—Obstructions in the urethra from calculi—Mode of removal—Cases.*

Stricture of the urethra.—A stricture of the urethra is an abnormal contraction in any part of the course of its canal: this contraction is caused by a morbid deposition of adhesive matter in the submucous cellular tissue, in which case the stricture is permanent; or by a sudden congestion in the corpus spongiosum, when it is merely temporary.

Strictures have been divided into two classes, according as they are permanent or spasmodic. Some authors have, indeed, added a third class, which they have termed "mixed stricture." I believe, myself, that the doctrine of the existence of spasmodic stricture has arisen upon the supposition that the urethra is, through the whole of its length, partially composed of muscular fibres: of this there does not, however, appear to be any proof whatever. Mr. Howship considers that he has proved the existence of muscular fibre in the urethra by the power which that canal possesses to expel spontaneously a moderately-sized bougie. This action he attributes to muscle, while it in fact results from the excitement produced in the erectile tissue of the urethra, the consequence being an increased flow of blood to the part, which causes a contraction in the calibre of the urethra, of which the expulsion of the bougie is the effect. In the same manner, spasmodic stricture is produced, when, from some morbid cause, a sudden distension of the erectile tissue occurs. The idea that these obstructions are true spasmodic contractions has doubtless been strengthened by the circumstance that they are relieved by precisely the same remedies as those that overcome muscular irritability—viz. bleeding, purging, nauseating medicines, and hot bath, which exercise, in fact, an equal influence over the circulating and muscular systems. When these contractions occur, however, in the bulb or membranous portion of the urethra, muscular fibre may be secondarily affected, as both those parts are under the influence of muscle, although muscular fibre does not enter into the composition of the urethra itself.

The kind of obstruction generally termed spasmodic stricture, independent of muscular action, may perhaps be with more propriety called "irritable stricture,"—an affection frequently induced by a general state of irritability of the constitution. This requires, as I shall presently shew, to be treated by sedatives administered to the system generally, and by soothing local applications; such strictures may, however, result from disease in neighbouring organs, as the prostate gland, bladder, or rectum, although it is much more generally the effect of some morbid action commencing in the urethra itself; and perhaps gonorrhœal inflammation is one of the most frequent of its causes.

Any circumstance that produces irritation, and consequent extraordinary influx of blood to the urethra, will have a corresponding tendency to diminish for the time the size of that canal. This is the case during the natural excitement of the organ; as when it is in a state of priapism the urine can scarcely be expelled even in the minutest quantity. A partial determination of blood to the part leads, therefore, to a certain amount of obstruction, and constitutes what I consider spasmodic or irritable stricture. This condition may be readily distinguished from permanent stricture by the suddenness with which the patient is attacked by difficulty in passing the urine, unattended by any other premonitory symptoms than those of the mere cause of irritability—as protracted retention of the urine, hæmorrhoids, or excessive venereal excitement. In the treatment of this affection, the catheter should not be employed at first, but a dose of opium with tartarized antimony given, together with the application of hot bath and a warm purgative enema; and these measures will generally be found sufficient to remove the complaint without any instrument being had recourse to. If the catheter be passed without the sedatives being first employed, even should it effect its intended result, viz. relief from retention of urine, it would tend to increase the cause of the obstruction by irritating the urethra: it would also probably cause considerable bleeding, and perhaps lacerate the interior of the canal itself. I do not, however, mean to say that constitutional remedies alone will always cause the removal of the disease; for the congestion of the vessels of the irritated part, or perhaps some subcutaneous effusion, may have led to permanent obstruction; and if that were the case, and local irritation present at the same time, the mixed kind of stricture already alluded to would be established. In obstinate cases of this mixed stricture, cupping in the perineum will often be found of great advantage: two grains of calomel and a grain of opium may be taken at bed-time, and also small doses of the sesquichloride of iron, and the bougie may at the same time be employed in a very gentle manner; but if it should produce pain and bleeding, caustic should be applied to the stricture: and this I believe to be an almost infallible means of subduing the irritability in some cases; and the following suppository at bedtime will be found to produce a very beneficial effect:—℞ Pulv. Opii, gr. iss.; Ext. Hyos. gr. v.; Sapon. Hispan. q. s. ft. suppositorum.

But ordering the suppository, gentlemen, is not sufficient: you must also see it properly introduced into the rectum, otherwise it will increase, instead of diminish, the suffering of the patient. If, for example, it be only placed within the anus, under the influence of the sphincter muscle, it will produce an aggravation of all the symptoms; while, if it be passed into the bowel above the sphincter, it will speedily produce the desired soothing effect. After all the symptoms of irritation are relieved, there may still remain slight permanent obstruction, requiring the continued use either of the catheter or bougie to re-establish the natural calibre of the urethra: the size of the instrument may be fairly judged of by that of the stream of water passed in micturition; but whatever the instrument may be, *gentleness* in its use is the great point to which attention should be directed.

Permanent stricture.—This consists in a contraction of some part of the urethral canal from the formation of an adventitious deposit. It does not, however, exist in the urethra itself, but in the cellular tissue between the mucous membrane and corpus spongiosum, the mucous membrane being pressed inwards by it so as to reduce the size of the canal at the point at which the deposit is produced. This deposition of matter, and consequent morbid contraction of the urethra, may result from various causes, which, either in an acute or chronic form, may give rise to the stricture. Protracted gonorrhœa is, as I have already stated, the most frequent cause; but external injury, an acrid state of the urine, or anything that could produce an irritable stricture, may also be the means of establishing a permanent one. The bulb is the part of the urethra most liable to stricture, as it is not only the most vascular, but composed also of a large quantity of cellular tissue: it likewise, from the close vicinity of the ducts of Cowper's glands, is very subject to become implicated in the diseases that attack them. Many surgeons state that the membranous part of the urethra is often the seat of stricture; but such is not the case; and you, as anatomists, gentlemen, will readily see why it should not be so, owing to the small quantity of cellular tissue which surrounds it, and the absence of corpus spongiosum: it may, however, be subject to temporary constriction from the contraction of Wilson's muscles, which completely encompass it.

The result of stricture is necessarily a difficulty in passing the urine; and, therefore, increased muscular action is required in the bladder and abdominal parietes to force the fluid through the contracted urethra. The violence with which the urine is propelled against the stricture tends to excite further irritation: the obstruction consequently becomes increased; and if, at the same time, the subject of the disease pays no attention to dietetic rules, and exposes himself to vicissitudes of temperature, the difficulty of micturition increases, and every symptom is aggravated: still, it is surprising to remark to what extent patients will allow the disease to proceed before they consult a surgeon. Nothing can be more unwise than such procrastination; for during the delay the bladder becomes thickened, its capacity correspondingly reduced, the ureters enlarged, the pelvis of the kidney distended, its secreting portion compressed, and the secretion of urine diminished,—all which effects are more or less the consequence of not early seeking medical advice; the result being, that, in addition to these symptoms of the disease itself, the general health of the patient is liable to become seriously affected. The delay on the part of individuals suffering from this complaint, can, indeed, only be accounted for by the insidious manner in which the symptoms follow each other; and I have known persons submit so long to the difficulty in passing the urine, that the urethra has at length given way behind the stricture, and extravasation of urine into the perineum had occurred before any medical assistance had been sought.

The first complaint of a patient in this disease is generally that he experiences a difficulty in passing his water, which requires a much longer time than is natural, and after he believes that the bladder is emptied, the necessity for its further evacuation immediately returns, and an additional portion, equal in quantity to the first, is voided, the stream in which it escapes from the urethra being remarkably small and tortuous. The frequent desire to make water is almost invariably an early symptom of stricture, and sometimes an involuntary dribbling comes on, which causes great inconvenience and annoyance. These symptoms vary very much in degree, and are increased by any kind of intemperance, and by exposure to wet and cold: abstinence and quietude are, however, sure to afford relief; it is this fluctuating character, and the occasional cessation of the symptoms, that probably induce the patient to defer so long any application for medical assistance. When you are consulted under such circumstances, your first step will be to make an examination of the urethra, by passing a bougie; this is generally done while the patient is standing with his back against a wall, but I think this a bad plan, for patients are very liable to faint upon the introduction of the instrument, even although they do not experience pain. I therefore consider it better that the individual should be placed in the recumbent posture on a sofa.

Having placed your patient in the proper position, you will oil a bougie or silver catheter (No. 6), and, raising the penis to an angle of about 40° from the abdomen, pass the instrument gently down to the stricture, against which you press it slightly, and equably, for the space of a minute, or perhaps rather more, according to the degree of pain the patient experiences. It may happen that the instrument soon passes the obstruction; if that be the case I do not advocate its further introduction, so that it may enter the bladder, but think it better to be satisfied with the progress already made. After the employment of the bougie, the patient should be kept extremely quiet during the remainder of the day, should live abstemiously, and at bed-time take the following draught:—℞ Liq. Potass. gtts. xx.; Træ. Opii, gtts. x.; Mist. Camphoræ, ℥iss. Ft, haustus. An aperient should likewise be taken the next morning. The instrument should be again passed about *forty-eight* hours after the first examination, and it may now be passed into the bladder, and left there for ten minutes or a quarter of an hour, unless it causes great irritation, for I have always found the cure to be greatly expedited by the continued pressure which the bougie thus keeps up. I have recommended No. 6 as the size of the instrument first employed, as I consider it less likely to produce irritation than the one of smaller size, for the latter is not only likely to catch in the lacunæ, but may also make a false passage by penetrating the sides of the urethra. If, however, No. 6 be found too large to pass through the stricture, smaller instruments must necessarily be used; but it should be borne in mind that they require a degree of caution in their introduction proportionate to the smallness of their size. If the instrument cannot be passed through the stricture into the bladder, a question naturally arises as to what other means are to be adopted for the relief of the patient. This depends entirely upon the urgency of the symptoms, especially in reference to the distension of the bladder from the retained urine: the judgment cannot here be much guided by the expressions of the patient as to the amount of his suffering, for the pain which in one patient may be described as little more than mere inconvenience, may be complained of by another as excruciating agony. Therefore, the first thing to be done is to examine the state of the bladder per anum, and also through the parietes of the abdomen. If the bladder be felt pressing on the rectum, you may be assured that the distension is extreme, for it is in the posterior direction that the organ projects lastly under the influence of the internal pressure of the urine. I have but very rarely met with a case that did not admit of sufficient delay to allow of the trial of medicinal means before proceeding to puncture the bladder, although no doubt such cases occur. The plan I adopt is to place the patient in a hot bath, give a large dose of opium (gr. iss. to gr. ij.) and employ a purgative enema. As soon as the bowels are open I order a suppository composed of opium, and a fourth of a grain of belladonna, to be inserted into the rectum: these means rarely fail to produce a flow of urine, which, even if it takes place but slowly, relieves the urgency of the symptoms, and gives time for the adoption of further means for the removal of the obstruction. This may be effected by four different methods—dilatation, caustic, puncture, and incision.

Dilatation should be first tried; it is effected by the catheter or bougie, or by injecting the urethra with water. In speaking, however, of this treatment of stricture, I wish to impress on your minds that something more is to be done beyond the mere mechanical removal of the impediment to the passage of the urine, and that the use of local remedial means should be judiciously combined with constitutional treatment; the latter consisting chiefly in the strictest observance of dietetic rules to the state of the bowels, and in the employment of such medicines as tend to diminish arterial action; such as blue pill, with tartarized antimony, followed by slight aperients. Recent strictures may almost always be cured by this system of treatment, assisted by the gentle introduction of the bougie every other day, and even when the stricture has reached its more permanent form, its cure may generally be effected by following out this plan, and in passing the instruments without violence, as the object is not to force a passage through the stricture, but by gentle pressure produce a slight inflammatory action, in consequence of which, disintegration and absorption are likely to be induced. This plan was strongly recommended by Dupuytren, and I have followed it with very great success. The indication that the treatment is producing the desired effect upon the stricture is found in the appearance of a slight purulent discharge, and soon after this effect is first seen, the catheter will generally soon pass the obstruction. During the progress of the treatment the permanent stricture often becomes irritable,—just as irritable stricture is convertible into permanent: this is shewn by its tendency to bleed on attempting to pass a catheter, and by the pain which the slightest touch of the instrument produces: in such cases you will also find that if you succeed in passing the stricture, there will be considerable difficulty in withdrawing it, and it will generally be attended by bleeding. With these symptoms recourse must be had to sedatives, and also to the caustic bougie, which seldom fails to diminish the irritability, probably by destroying the sentient extremities of the nerves which had become exposed by the ulcerative changes the substance of the stricture had undergone. Some surgeons recommend the use of potassa fusa as the escharotic, instead of nitrate of silver. I believe it unsafe, however, on account of its deliquescence, which renders it much less manageable. In cases in which the stricture resists the gentle application of bougies, I have rendered the obstruction permeable by injecting tepid water into the urethra by means of a syringe furnished with a long canula. By repeating this operation the opening becomes dilated,—a condition soon made evident by the greater freedom with which the water enters: a bougie may afterwards again be had recourse to. It is somewhat remarkable, that after the introduction of the bougie, although no evident mechanical effect has been produced by it, the patient finds that he can pass his water much more freely, and yet perhaps the instrument may not penetrate the stricture until some days after. Caustic is sometimes employed as a direct means of overcoming a stricture, the density of which is so great as to prevent its being acted on by simple pressure. The application of the escharotic produces a slight slough on the surface, and tends to soften the mass of adventitious matter, so as to render it better fitted for absorption. Some precaution is necessary in using the caustic bougie, and contact with any portion of the urethra besides the stricture must be carefully avoided. To secure this, a larger instrument should be passed first, to clear the way, as it were, for the cauterising bougie. Although I have attached great importance to the observance of extreme gentleness in the introduction of the bougie, circumstances may occur in which it may be necessary to employ force to effect its entrance into the bladder; for it may happen that the symptoms of retention of urine may be so urgent, that immediate relief is imperatively required, and under such circumstances the forcible introduction of the catheter becomes not only justifiable, but may be an advisable measure.

If, in the attempt to introduce the instrument, it is found that it can be brought to a right angle with the body in its recumbent position, it will prove that the stricture is situated just at the junction of the bulb with the membranous part of the urethra, and then, in order to effect the introduction of the catheter into the bladder, the fore-finger of the left hand should be passed into the rectum; and when the point of the instrument is felt, as it may easily be, the handle must be depressed with moderate force, and the point may then be directed at once into the bladder. Some surgeons recommend that in such strictures the catheter should be thrust in with sufficient force to overcome the obstruction at all risks: but I am persuaded that this is bad practice, as the laceration of the canal, perforation of the prostate gland or rectum, are accidents very likely to occur: it is, therefore, better to puncture the bladder than to have recourse to such violence.

In cases where the catheter cannot be passed through the stricture, instruments have been employed for the purpose of cutting a passage: the instrument is composed of a kind of catheter with a concealed lancet, which is projected from its canula the moment it touches the stricture. But it is so perfectly impossible to direct a sharp cutting instrument merely through the obstruction, without wounding the urethra itself, that I totally repudiate its employment, unless it be for the purpose of dividing a stricture placed anterior to the bulb, and consequently in the straight part of the canal. If the nature of the stricture does not, however, admit of the use of the instrument, and the attempts at dilatation, by the gentle introduction of the catheter or bougie, injection of water, or application of caustic, have failed, and the patient be still suffering from retention of urine, or be in consequence of the straining threatened with ulceration of the urethra behind the stricture, puncturing the bladder must necessarily be resorted to. The operation may be performed either by making the puncture into the bladder through the rectum above the pubes, or by making an incision into the perineum. I have always had an objection to the operation per rectum; for, although it is performed with great facility, still you are interfering with the functions of an important organ, in addition to those implicated in the disease, and, moreover, you are only relieving the patient from the retention, without removing the cause of that evil. Some surgeons maintain that the stricture is much more readily cured when the urine is made to pass off by another channel, as it is then relieved, owing to its being no longer subjected to the pressure of the urine, or the irritating influence of constant attempts at micturition. My experience does not, however, lead me to this opinion, as it still requires much time to remove the obstruction; and during this period a canula or bougie, sufficiently long to protrude from the anus, must be left in the opening between the bladder and rectum; and as this instrument must irritate the rectum by its presence, it would tend to produce a liability to permanent fistula. My colleague, Mr. Cock, has frequently performed the above operation in cases where immediate relief was necessary from the urgency of the symptoms of retention of urine; and the circumstance of his having repeated it, is, in my opinion, a sufficient guarantee for its expediency in certain cases. In the operation, the patient should be placed in the same position as in the operation for lithotomy: the fore-finger of the left hand must be passed up the rectum beyond the prostate gland, and upon the patient's coughing, the inferior region of the bladder may be felt pressing on the rectum. The middle finger should now be introduced, and a long curved canula passed on the fingers and pressed against the bladder, being at the same time held in such a direction that the extremity points towards the umbilicus. The trocar is next passed along the canula, and plunged into the bladder; on withdrawing which, the urine immediately follows.

In cases of enlarged prostate this operation should certainly never be had recourse to, as there is danger of wounding its third lobe. And, moreover, before this operation is decided on, it should be ascertained that the bladder is really distended by urine, and not thickened by hypertrophy, in which case the urine may be contained in abnormally distended ureters, and in the pelvis of the kidney, and not in the bladder. In such cases, the stricture itself should be operated on, and not the bladder merely punctured.

Puncture of the bladder above the pubes is sometimes had recourse to for the purpose of relieving insuperable retention of urine, but the same objection exists to this as to the puncture of the bladder per rectum—viz. that it is merely relieving retention, without at the same time removing the stricture, which is the cause of obstruction to the passage of the water through the urethra. This operation, considered only as a ready mode of drawing off the water, certainly offers considerable facilities, but the subsequent danger from the great liability of infiltration of urine, offers a great objection to its adoption.

The manner in which the operation when determined on is to be performed, is by making an incision an inch and a half long through the skin in the median line immediately above the pubes, and having laid bear the linea alba, divide it also to the same extent. The anterior region of the bladder, uncovered by peritoneum, will now be exposed, and a trochar and canula are to be plunged into the bladder, and the water drawn off. Care should be taken that the canula is sufficiently long to permit its being retained in the bladder when that viscus recedes as the water is evacuated, otherwise extravasation would immediately take place, and to prevent the subsequent occurrence of this, means must be employed to retain the canula, and to keep the patient in such a position as would guard against such an accident. The same difficulty, however, occurs as in the operation per rectum, as to the period at which the canula may be withdrawn, for the permeable condition of the urethra has yet to be restored.

I knew a farmer at Chipping Ongar, who for the last twelve years of his life was constantly obliged to wear the instrument, proving that the operation had only relieved the retention, without effecting the removal of its cause. It may be considered that puncturing the bladder by either of the described methods ought only to be had recourse to when there is danger to life arising from a protracted retention—a condition which can only arise either from the delay and neglect of the patient, or from the injudicious treatment adopted for the cure of the obstruction. When, therefore, a patient applies to you, who is the subject of difficulty in passing water, and of frequent attacks of partial retention, and you find it impossible to pass an instrument into the bladder, and that the symptoms are not relieved by warm-bath, opium, and such other remedies as have already been mentioned, and also that the stricture does not yield to the means employed for its dilatation, nor to the action of caustic, I believe the most advisable operation to be cutting through the stricture in perineo, as by this mode of procedure you not only radically overcome the obstruction, but at the same time relieve the retention of urine. It is true that this operation is more difficult than the others, but that in itself offers no reasonable objection to its adoption, if it actually affords more benefit to the patient. The cause of its frequent failure arises from the delay, which is allowed to produce great constitutional disturbance before the operation is had recourse to as a rational means of cure.

The operation of *dividing the stricture in perineo* is performed with the patient in the same position as in lithotomy: an instrument is passed down to the stricture, the grooved staff being perhaps the most appropriate to the purpose. An incision is next made in the perineum, commencing at the point where the end of the instrument can be felt resting on the stricture; the groove is then to be cut into, and the knife carried downwards with great caution, cutting the way for the point of the staff, which should be made to follow it as it gradually divides the stricture, and the staff, being pushed on, passes into the bladder. The staff should then be withdrawn, and an elastic gum catheter put in its place, and retained there for several days. I have generally adopted another plan for performing this operation, in consequence in most of the cases of fistulous opening in the perineum being concomitant with the stricture. Having made the incision into the perineum, instead of opening the urethra at the groove of the staff as before described, I have first opened the membranous parts of the urethra behind the stricture, and then passed a female catheter into the bladder, and drawn off the urine; thus relieving the patient of the retention, but having still to divide the stricture: this is effected by feeling within the wound for the point of the grooved staff above the stricture; and, proceeding to cut through the obstruction, carrying forward the staff as before described,—first, however, having withdrawn the female catheter,—the staff enters the bladder through the opening originally made for that instrument. The staff should then be withdrawn, and an elastic gum catheter inserted in its stead: this should be left in for a week, when it must be removed, and substituted by a new one. At first, some urine will escape by the wound through the perineum, as in the operation for lithotomy; but generally in the course of a week or ten days it passes entirely through the catheter. About a fortnight after it has entirely ceased to flow from the perineum, the catheter should be removed, but still for some time the patient should regularly have the water drawn off, and this, if performed with gentleness, produces much less irritation than would be excited by the constant presence of an instrument in the bladder. I have, at the present time, a gentleman under my care, and ten days have elapsed since the above operation was performed, and the urine has ceased to flow from the perineum; but he continues to employ the catheter to evacuate the bladder. I have performed this operation many times, both in public and private practice, and am convinced that if resorted to in an early stage of the disease, or at least immediately after the appearance of urgent symptoms, there are few cases in which it would not prove successful; but, on the other hand, in protracted cases, success is very doubtful. When a permanent stricture occurs in the urethra anterior to the bulb, and especially in that part of the canal covered by scrotum, it is not advisable to cut down upon the stricture from without, owing to the liability to infiltration of urine if the incision be made through the scrotum, and of the difficulty of healing the wound when the opening is made anterior to it. The cure of such strictures must, therefore, be assiduously attempted by the use of bougies or caustic, or, should they resist this treatment, perhaps the instrument, furnished with a cutting stelitte, employed by Mr. Stafford, may be used: as this part of the urethra may be rendered straight, the instrument may be directed with much more certainty than when the stricture is seated in the curved portion of the canal. I should myself, however, prefer opening the urethra behind the stricture, if retention demanded it, rather than to puncture the stricture itself.

Obstructions in the urethra sometimes occur from the lodgment of a small calculus in the passage, and this may lead to retention of urine, even without any premonitory symptoms leading either the patient or the surgeon to suspect the cause of the obstruction. The patient, however, may have experienced pain in the loins, nausea, and retraction of the testicle; and a sudden cessation of these symptoms, probably from the use of a warm bath, or a dose of opium, would lead you at once to suspect the cause of the retention, and would necessarily preclude the propriety of passing an instrument, as you would be liable to push the stone back again into the bladder; and this would lead to the necessity for some *future* serious operation for its removal. Should, however, the foreign body in the urethra produce decided retention, it must be removed, either by a pair of forceps passed down the urethra for the purpose of crushing it, or by cutting down upon it, and removing it whole; in the latter case, the patient should not be allowed to pass his water without the use of an instrument, or a permanent fistulous opening is almost certain to be the result: in these cases, however, the wound heals much more readily than in cases of stricture, which fact is easily explicable, as in the former case the urethra is healthy, while in the latter its diseased condition prevents the ready re-union of the divided parts. I have frequently treated cases both where the presence of the stone was manifest, and where its existence was merely suspected from the suddenness with which the obstruction occurred. I was once sent for to a gentleman at Mould's Hotel, who had been seized with retention of urine, to which, indeed, he told me he had been subject upon several occasions. With some considerable difficulty I at length succeeded in passing an instrument and drawing off his water: he remained under my care for about ten days, during which period I had occasion to use the catheter three or four times, and never detected the presence of a stone; one day, however, shortly after I had left him, a calculus of considerable size passed from the urethra, and he has remained perfectly well ever since. The anomaly in this case is, how the catheter could pass the stone without giving evidence of its presence; but I suspect that it had lodged in the bulb, where it had perhaps formed a kind of pouch, and I also believe that its formation had taken place in the prostate gland, as its constituents proved to be phosphate of lime; and this would account for the absence of symptoms of the passage of the stone from the kidney into the bladder.

I was sent for to a patient who had suddenly become the subject of insuperable retention of urine, unattended by any premonitory symptoms: the patient describing he had never been the subject of stricture or any other disturbance to the passage of his urine. Upon attempting to pass a catheter, I found the meatus of the urethra so contracted that No. 6 could not be introduced. I was therefore obliged to substitute a smaller instrument, which, although it entered the passage, was immediately stopped by some foreign substance: with a probe-pointed bistoury I enlarged the mouth of the urethra, and with a pair of small "dressing forceps" easily removed a calculus, which I found to have been the only cause of the obstruction to the passage of the urine.

Original Communications.

POISONING BY CANTHARIDES. RECOVERY.

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Cantharides is not a poison often employed with a homicidal purpose; its injurious effects have been usually seen in cases of attempted fœticide, and have unexpectedly resulted when the drug has been intentionally and foolishly taken, or secretly and basely administered, with the view of exciting the sexual propensity. Though, as has been written, *nullus amor est medicabilis herbis*, the vulgar belief was once strong that the opposed states of apathy or aversion were quite within the management of drugs. As much powder of Spanish flies as would lie upon a silver threepence, administered at the height of the moon, or at some other equally favourable astrological season, was formerly a reputed prescription for what was termed *love powder*. The occasional administration of the pulvis lyttæ to cattle has tended to make the nature of its effects more generally known than might be expected amongst such persons as the criminal in the following case, who being better acquainted with the character than the danger of its action, are liable to employ it mischievously, in effecting a very coarse and hazardous practical joke. This species of trick is rather an old one. "In the year 1691, October 25," says Dr. Greenfield (Treatise of Cantharides, translated by Marten), "five young men went into a tavern, and being a little merry with drinking of wine, had a mind to try the effects of cantharides, having some ready powdered by them. Some time after, a friend coming in, not knowing anything of the design, after some glasses going round, they gave him one with a large dose of cantharides; in a few hours after he feels great itching and pricking, at length very great heat of urine, and a most violent strangury; towards the evening, Mr. Fosschet, the surgeon, is sent for (all the while his sociates are privately laughing among themselves); the surgeon examines the symptoms, and immediately lets him blood, and prescribes emulsions; but the patient finding no manner of ease by all this, mightily exclaims at his sociates; at length they confess what they gave him to drink; then the surgeon prepares injections of emollients and anodynes, and gives opiates, but all to no manner of purpose; after five days, by meer accident, the surgeon meets me, tells me the story, and asks my advice, which I freely gave him, and prescribed camphor ℈ij. to be made into 2 boluses, one to be taken presently, the other in six hours after; the first dose gave him great ease, the last quite removes all pain. This patient's master was one Mr. Bennet, an honest man, well known in Wapping, who, upon this so sudden and good success, asks the surgeon how he came by such a remedy? The surgeon tells him the whole story; I am sent for, and Mr. Bennet gives me many thanks, and discharges me with great honour and civility."

On Saturday night, the 13th of last May, Robert Petrie, a robust country labourer, about 23 years of age, accidentally encountered in the village of Banchory, a person unknown, whose acquaintance he had made some months before, in working together on a railway line. Though his knowledge of the individual was so slight that he was ignorant both of his name and his residence, it was quite sufficient to warrant his acceptance of a share of a bottle of porter, of which he was generously made the offer, and which they accordingly sat down to discuss together in a neighbouring inn. While they were thus pleasantly engaged, his friend mentioned to him that he was in present want of threepence worth of Spanish flies to make a blister, and requested him to go out and make the purchase, as he would know better than the stranger where such a thing was to be got good. Petrie had no objection to show himself obliging, and went out to a neighbouring merchant's, where he procured a quarter of an ounce of cantharides. On returning, he found that another bottle of porter had been called for, and was already equally divided in two tumblers. It was somewhere at this stage of the transaction that the drink was hocussed; but whether during Petrie's absence, or by dexterous juggling when he was present, cannot be determined. They finished their porter at a draught, and the friends separated—Petrie to go to his home, about four miles distant, and the unknown to some place which is still as unknown as himself. Nothing particular was remarked in the liquor when it was swallowed, and the vessels were carried off and cleaned by the inn-servant, without anything being observed about them to attract unusual attention.

The patient had not proceeded far on his way, when he began to feel a strange heat in his mouth. He got very sick, and vomited several times on the road; he had pain in making water, and became, in his own phrase, so "senseless," that he had great difficulty in reaching home.

Next day, Dr. Thom, of Banchory, was sent for, and found him in bed, with cold extremities, anxious countenance, pain and heat in the stomach, profuse salivation, indistinct articulation, difficulty in swallowing, strangury, and bloody urine. He understood that the patient believed himself to be poisoned by something which had been mixed in the porter; and, from the history and symptoms, he had little doubt but that he had had cantharides given to him. On examining his mouth, the tongue and fauces were found swollen and inflamed; the mucous membrane was elevated here and there in vesications, and small particles of the poison suspected were found sticking between the teeth. Vomiting having already taken place freely, the patient was directed to drink plentifully of milk, gruel, and barley-water, from the employment of which much relief was experienced. In the evening a full opiate was prescribed, and the diluents ordered to be continued.

15th.—The patient had slept well, but the pain in the abdomen and loins was very considerable, and the irritation of the urinary organs greater. Pulse 90, sharp.

Blood was taken from the arm until the approach of faintness; fomentations were ordered to the abdomen; the demulcents to be continued; three grains of Pulv. Ipecac. every three hours; and castor oil, if required.

16th.—Painful symptoms considerably relieved. Had passed a greenish stool mixed with mucus and blood.

Urine still bloody and scanty. Appearance agitated and confused. Pulse 95, softer. Head to be shaved.

17th.—Much the same. Half an ounce of castor oil.

I visited on the evening of the next day, along with Dr. Thom, and found the patient perfectly collected, and evidently beginning to recover. The calls to make water were still frequent, and the secretion was scanty, and discoloured by some worm-shaped coagula of blood. There was no pain in the head; the pain in the back was gone, and there was neither tenseness nor tenderness of the abdomen. There was no inflammation nor swelling about the genital organs, and priapism had not been a prominent symptom. He complained much of the tenderness in his mouth, arising from the raw patches on the tongue, inside of the lips and velum, and ptyalism was still rather profuse. The castor oil had brought off three feculent stools of a natural colour, in which were several discoloured coagula of a small size, but no trace of cantharides particles discoverable by an ordinary examination. The pulse was 84, and soft; the skin warm and moist, and the expression of countenance natural.

The improvement was steadily progressive; and some days afterwards I understood from Dr. Thom that the patient had entirely recovered.

In this case all the usual phenomena of poisoning by this agent were present, with the exception of diarrhœa, priapism, and inflammation of the generative organs. The dose taken was probably two drachms, which was the quantity purchased; but on this point there is room for uncertainty. The active principle of the cantharides being dissolved in the porter, the remote action of the poison on the system was manifested nearly as speedily as its local irritation on the stomach. Symptoms of urinary irritation had begun before the patient reached home. The violence of its acrid effect seems to have been mainly confined to the mouth, gullet, and stomach; and, from the absence of diarrhœa and bloody stools, it might be inferred that the powder had been almost entirely ejected by vomiting, and that but a small quantity had found its way into the intestinal tube.

Independent of the proof afforded by the detection of particles of the powder in the interstices of the teeth, the history of this case would have been sufficiently conclusive of the poison which had been taken. Highly characteristic, and in many points peculiar, as the symptoms produced by cantharides are, they cannot be held to be sufficiently diagnostic of themselves, since the publication by Dr. Hastings, of Worcester, of a remarkable instance—one, so far as I am aware, which is unique—of natural death, in which every prominent feature during life, and the appearances in the body after death, would, in the absence of known evidence to the contrary, have been held conclusive of the administration of this agent. (Trans. of Prov. Med. Assoc. i. 402). During life the indications were, the sudden and unaccountable occurrence of vomiting; pain in the stomach and loins; strangury; hæmaturia; and painful tumidity about the generative organs; and after death, the kidneys, ureters, ovaries, and Fallopian tubes, were found inflamed; the bladder contained blood, and the villous coat of the stomach presented appearances such as are produced by the irritant poisons, and are rarely occasioned by any other cause.

Symptoms of combined gastric and genito-urinary irritation, even when of sudden occurrence, and under circumstances of a suspicious nature, cannot therefore amount to proof of the agency of this poisonous article, if no traces of the substance itself, or its active principle, be discovered in the vomited matters, the dejections, or, after decease, in some part of the stomach and intestines. The loosening of the mucous membrane of the mouth by vesication—a result observed in the present instance, but not a constant phenomenon — would, when it does exist, be a very important means of discriminating the effects of cantharides from those of any morbid condition such as that recorded by Dr. Hastings, in those instances in which circumstantial and necroscopical proof was deficient. No other acrid poison occasions a similar train of symptoms. The muriated tincture of iron might give rise to a considerable amount of urinary disorder; but, when given in doses to prove poisonous, it kills, from the amount of muriatic acid which it contains, by the mode of corrosive irritation.

Several remedies have been recommended in this form of poisoning, after the efficient emptying of the stomach—amongst which may be enumerated diluents, camphor, bark, stimulants, and narcotics: in other words, the treatment must, as in the case of most poisons, be upon no specific plan, but regulated entirely by the aspect of the danger in each particular case. When the symptoms are merely those of strangury, camphor emulsion with mucilaginous diluents will be sufficient; but where the case is complicated with gastric inflammation, venesection may be required, and advantageously employed, if emesis have been complete. In those instances in which the poisonous influence on the nervous system forms an early and a threatening feature, much good seems to have resulted from the employment of stimulants. In such cases, cantharides, while it occasions its characteristic effects on the urinary organs, depresses the action of the heart, and, unless alcoholic stimulants and opiates be freely administered, will occasion death by syncope. Either of the preceding modes of treatment pursued from a mistaken view of the nature of the irritant action, would, under such circumstances, prove fatal: the one by its inertness; the other by its activity.

Aberdeen, Oct. 14, 1848.

SOME REMARKS ON THE

TREATMENT OF PHTHISIS PULMONALIS;

AND ESPECIALLY ON THE USE OF COD-LIVER OIL IN THAT DISEASE.

By Sir Charles Scudamore.

In my publication on Tubercular Phthisis and Bronchitis, I have represented myself to have had a considerable share of success in my combined mode of treatment, by the use of *inhalation*, alteratives, and tonics; further assisted by ablutions, local compresses, and occasional counter-irritation, with very supporting diet, and that attention to climate, good air, proper ventilation, and general regimen, which no class of invalids more require than the consumptive.

I may be considered to have drawn too flattering a picture of the medicability of phthisis, and of the remedial influence of the inhalation of iodine with conium towards the absorption of early tubercles, and the healing of small cavities when tubercles have softened. In extremely bad cases, I have, in common with my medical brethren, to lament the usual failure of the treatment. But I contend, that even when success is not possible, the symptoms may, by the combined means to which I have alluded, be greatly mitigated, and life be prolonged.[*] It must be kept in view, that chronic bronchitis forms a large part of the disease in tubercular phthisis; and those who deny the benefit to be afforded to the morbid conditions of the bronchial membrane by inhalation, cannot, I affirm, have made fair trial of the treatment.

But it is not my present object to expatiate on this particular point; and I take up my pen to offer a few remarks on the use of cod-liver oil—a remedy which is daily exciting increased attention for the relief of the consumptive.

In my Treatise on Rheumatism, published in 1827, I adverted to this remedy, as first, I believe, recommended by Dr. Percival,[†] and favourably mentioned by the late Dr. Bardsley in his Reports. The exceeding nauseousness of the article has always been a great hindrance to its use; and I, not standing alone in this respect, choosing to look to the patient's comfort rather than urge him to revolting measures, have been slow to advise the use of this oil. Yet I have not omitted to prescribe it in consumptive cases; confessing, however, that I have not met with many instances in which a perseverance in the taking of the oil has appeared possible: the recusants having declared that they would accept any alternative to the misery of a frequent swallowing of this nauseous fluid. There may, however, be found, many accommodating stomachs that will not rebel; and there are some individuals who even contract a liking to it, as do the Russians to the train oil.

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[*] I have had a few cases in which a cavity of very considerable size, being in one lung only, has so far yielded to treatment, that seeming recovery has taken place, and life has been much prolonged—in one remarkable instance, three years. Nature sometimes makes surprising efforts towards cure in consumption: it is not too much to say, that she may be materially assisted.

[†] Died 1804, æt. 64.

It becomes a question of some importance to examine further into the merits of cod-liver oil, and ascertain the fittest pharmaceutical state in which it can be prescribed.

In the Medical Gazette for 1843, Nos. 839, 840, Mr. Chalk has given valuable papers "On the effects of the cod-liver oil[*] upon strumous and other diseases"—the results of his practice in the Margate Infirmary. Till of late this oil has been almost a disregarded medicine. Neither in Hooper's Medical Dictionary (1825); nor in Thomson's Elements of Materia Medica and Therapeutics (1835), is it at all mentioned. In Good's Study of Medicine, (vol. ii. 1825) I find the following statement:—"This offensive material is procured by the process of putrefaction, and appears to derive its stimulant power at least as much from rancidity as from any natural quality.

"Dr. Percival tried it upon a large scale in the Manchester Infirmary, and with so much success, that, nauseous as it is to the taste, rheumatic patients, from being eye-witnesses of its benefit, were in the habit of applying to him for a course of it.

"Dr. Bardsley has since spoken of it in terms of equal recommendation; and Dr. Parr asserts that he thinks he has seen chronic rheumatism yield to a constant use of this oil, which had resisted every other remedy. Dr. Bardsley's dose was from one to three tablespoonfuls in the course of the day."

I may here observe, that I have not found it an eligible remedy in chronic rheumatism.

The decided good name now accorded to this oil in pulmonary consumption and marasmus, has caused it to be a subject of particular attention with the pharmaceutical chemist. None can claim exclusive credit for keeping that which is genuine; but I believe that no one has paid more attention to its preparation than Mr. Bell, of Oxford Street. I have not seen any so beautifully transparent, light in colour, and so little disagreeable in odour and taste, as his *first quality* oil, which is the first spontaneous flow of it from the application of steam heat.[*] That which comes off afterwards is of darker colour, and, though rendered perfectly clear by filtration, is less acceptable to the palate. Some medical men with whom I have conversed prefer the darker sort, asserting it to be more efficacious, but, I think, probably not with good reason. It certainly contains a larger portion of stearine (solid fatty matter), but it has the serious disadvantage of being the most nauseous; and it seems fair to presume that the lighter and more transparent sort—the first flowing from the liver—which contains less stearine and more liquid oil (oleine), is really as conducive to nutrition from its oil, as the dark from its surplus of stearine, and far more palateable.

Assuredly such oil as is procured from the putrefactive state of the liver, under exposure to the sun's rays, should be rejected as unfit for use. The cod furnishes this species of oil more abundantly than any other fish. The livers should be well chosen, and none but steam heat be employed.

Vegetable oils have been tried in comparison of effect with this animal one; and it is found that they are less nutritious, and not so easily digested.

Mr. Chalk informs me that, after much trial, he found small or medium doses succeed the best. I am convinced that it is right to begin with a dose of from ʒi. to ʒij., and, as a general statement, not to go beyond half an ounce, three times a day. If it cannot be digested, as shown in the permanent nausea which it may produce, or if it run off by the bowels, the remedy fails. The mode of taking it must be studied. It may be allowed to float on extremely dilute brandy and water, or diment to the passage of the urine, and that the use of local remedial means should be judiciously combined with constitutional treatment; the latter consisting chiefly in the strictest observance of dietetic rules to the state of the bowels, and in the employment of such medicines as tend to diminish arterial action; such as blue pill, with tartarized antimony, followed by slight aperients. Recent strictures may almost always be cured by this system of treatment, assisted by the gentle introduction of the bougie every other day, and even when the stricture has reached its more permanent form, its cure may generally be effected by following out this plan, and in passing the instruments without violence, as the object is not to force a passage through the stricture, but by gentle pressure produce a slight inflammatory action, in consequence of which, disintegration and absorption are likely to be induced. This plan was strongly recommended by Dupuytren, and I have followed it with very great success. The indication that the treatment is producing the desired effect upon the stricture is found in the appearance of a slight purulent discharge, and soon after this effect is first seen, the catheter will generally soon pass the obstruction. During the progress of the treatment the permanent stricture often becomes irritable,—just as irritable stricture is convertible into permanent: this is shewn by its tendency to bleed on attempting to pass a catheter, and by the pain which the slightest touch of the instrument produces: in such cases you will also find that if you succeed in passing the stricture, there will be considerable difficulty in withdrawing it, and it will generally be attended by bleeding. With these symptoms recourse must be had to sedatives, and also to the caustic bougie, which seldom fails to diminish the irritability, probably by destroying the sentient extremities of the nerves which had become exposed by the ulcerative changes the substance of the stricture had undergone. Some surgeons recommend the use of potassa fusa as the escharotic, instead of nitrate of silver. I believe it unsafe, however, on account of its deliquescence, which renders it much less manageable. In cases in which the stricture resists the gentle application of bougies, I have rendered the obstruction permeable by injecting tepid water into the urethra by means of a syringe furnished with a long canula. By repeating this operation the opening becomes dilated,—a condition soon made evident by the greater freedom with which the water enters: a bougie may afterwards again be had recourse to. It is somewhat remarkable, that after the introduction of the bougie, although no evident mechanical effect has been produced by it, the patient finds that he can pass his water much more freely, and yet perhaps the instrument may not penetrate the stricture until some days after. Caustic is sometimes employed as a direct means of overcoming a stricture, the density of which is so great as to prevent its being acted on by simple pressure. The application of the escharotic produces a slight slough on the surface, and tends to soften the mass of adventitious matter, so as to render it better fitted for absorption. Some precaution is necessary in using the caustic bougie, and contact with any portion of the urethra besides the stricture must be carefully avoided. To secure this, a larger instrument should be passed first, to clear the way, as it were, for the cauterising bougie. Although I have attached great importance to the observance of extreme gentleness in the introduction of the bougie, circumstances may occur in which it may be necessary to employ force to effect its entrance into the bladder; for it may happen that the symptoms of retention of urine may be so urgent, that immediate relief is imperatively required, and under such circumstances the forcible introduction of the catheter becomes not only justifiable, but may be an advisable measure.

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[*] He gives a quotation, stating that the liver of the melter cod yields the strongest oil, and darker in colour than that of the spawner. I do not give any credit to the truth of this account.

[*] In a book on the Natural History of Fishes, I find the following statement, as quoted from a work of Sir A. Capel de Brooke, who speaks of the method used on the North Coast of Norway for obtaining the cod-liver oil:—"The livers are taken home in barrels, which are allowed to stand as long as possible to produce the clearer kind of oil. This, which is called *blank tran*, or white oil, exudes from the liver by its own pressure, and is the most valuable; the livers are afterwards boiled up in large cauldrons, kept constantly stirring, and the oil, as it rises, is skimmed off and barrelled.

The oil thus obtained is called *brunn tran*, brown oil, and does not fetch in general so good a price as the former. 500 cod livers are reckoned to make a barrel of 36 gallons; 30,000 barrels are annually exported from Norway.

This oil is principally sent to Holland, where it is used in the currying of leather.

If, in the attempt to introduce the instrument, it is found that it can be brought to a right angle with the body in its recumbent position, it will prove that the stricture is situated just at the junction of the bulb with the membranous part of the urethra, and then, in order to effect the introduction of the catheter into the bladder, the fore-finger of the left hand should be passed into the rectum; and when the point of the instrument is felt, as it may easily be, the handle must be depressed with moderate force, and the point may then be directed at once into the bladder. Some surgeons recommend that in such strictures the catheter should be thrust in with sufficient force to overcome the obstruction at all risks: but I am persuaded that this is bad practice, as the laceration of the canal, perforation of the prostate gland or rectum, are accidents very likely to occur: it is, therefore, better to puncture the bladder than to have recourse to such violence.

In cases where the catheter cannot be passed through the stricture, instruments have been employed for the purpose of cutting a passage: the instrument is composed of a kind of catheter with a concealed lancet, which is projected from its canula the moment it touches the stricture. But it is so perfectly impossible to direct a sharp cutting instrument merely through the obstruction, without wounding the urethra itself, that I totally repudiate its employment, unless it be for the purpose of dividing a stricture placed anterior to the bulb, and consequently in the straight part of the canal. If the nature of the stricture does not, however, admit of the use of the instrument, and the attempts at dilatation, by the gentle introduction of the catheter or bougie, injection of water, or application of caustic, have failed, and the patient be still suffering from retention of urine, or be in consequence of the straining threatened with ulceration of the urethra behind the stricture, puncturing the bladder must necessarily be resorted to. The operation may be performed either by making the puncture into the bladder through the rectum above the pubes, or by making an incision into the perineum. I have always had an objection to the operation per rectum; for, although it is performed with great facility, still you are interfering with the functions of an important organ, in addition to those implicated in the disease, and, moreover, you are only relieving the patient from the retention, without removing the cause of that evil. Some surgeons maintain that the stricture is much more readily cured when the urine is made to pass off by another channel, as it is then relieved, owing to its being no longer subjected to the pressure of the urine, or the irritating influence of constant attempts at micturition. My experience does not, however, lead me to this opinion, as it still requires much time to remove the obstruction; and during this period a canula or bougie, sufficiently long to protrude from the anus, must be left in the opening between the bladder and rectum; and as this instrument must irritate the rectum by its presence, it would tend to produce a liability to permanent fistula. My colleague, Mr. Cock, has frequently performed the above operation in cases where immediate relief was necessary from the urgency of the symptoms of retention of urine; and the circumstance of his having repeated it, is, in my opinion, a sufficient guarantee for its expediency in certain cases. In the operation, the patient should be placed in the same position as in the operation for lithotomy: the fore-finger of the left hand must be passed up the rectum beyond the prostate gland, and upon the patient's coughing, the inferior region of the bladder may be felt pressing on the rectum. The middle finger should now be introduced, and a long curved canula passed on the fingers and pressed against the bladder, being at the same time held in such a direction that the extremity points towards the umbilicus. The trocar is next passed along the canula, and plunged into the bladder; on withdrawing which, the urine immediately follows.

In cases of enlarged prostate this operation should certainly never be had recourse to, as there is danger of wounding its third lobe. And, moreover, before this operation is decided on, it should be ascertained that the bladder is really distended by urine, and not thickened by hypertrophy, in which case the urine may be contained in abnormally distended ureters, and in the pelvis of the kidney, and not in the bladder. In such cases, the stricture itself should be operated on, and not the bladder merely punctured.

Puncture of the bladder above the pubes is sometimes had recourse to for the purpose of relieving insuperable retention of urine, but the same objection exists to this as to the puncture of the bladder per rectum—viz. that it is merely relieving retention, without at the same time removing the stricture, which is the cause of obstruction to the passage of the water through the urethra. This operation, considered only as a ready mode of drawing off the water, certainly offers considerable facilities, but the subsequent danger from the great liability of infiltration of urine, offers a great objection to its adoption.

The manner in which the operation when determined on is to be performed, is by making an incision an inch and a half long through the skin in the median line immediately above the pubes, and having laid bear the linea alba, divide it also to the same extent. The anterior region of the bladder, uncovered by peritoneum, will now be exposed, and a trochar and canula are to be plunged into the bladder, and the water drawn off. Care should be taken that the canula is sufficiently long to permit its being retained in the bladder when that viscus recedes as the water is evacuated, otherwise extravasation would immediately take place, and to prevent the subsequent occurrence of this, means must be employed to retain the canula, and to keep the patient in such a position as would guard against such an accident. The same difficulty, however, occurs as in the operation per rectum, as to the period at which the canula may be withdrawn, for the permeable condition of the urethra has yet to be restored.

I knew a farmer at Chipping Ongar, who for the last twelve years of his life was constantly obliged to wear the instrument, proving that the operation had only relieved the retention, without effecting the removal of its cause. It may be considered that puncturing the bladder by either of the described methods ought only to be had recourse to when there is danger to life arising from a protracted retention—a condition which can only arise either from the delay and neglect of the patient, or from the injudicious treatment adopted for the cure of the obstruction. When, therefore, a patient applies to you, who is the subject of difficulty in passing water, and of frequent attacks of partial retention, and you find it impossible to pass an instrument into the bladder, and that the symptoms are not relieved by warm-bath, opium, and such other that is not an uncommon attendant of dysmenorrhœa and hysteralgia: it should, almost always, be promoted for a short time before recourse is had to opiates or other similar remedies. The same remark may be made as to the vomiting that generally occurs at the outset of small-pox, and, indeed, of most other fevers,* as well as in nephritic and nephralgic attacks, in painters' colic, during labour, and so forth. In all these cases, it is, where not unusually protracted or violent, a purely sanative and salutary act, that should not be rudely or untimeously checked. But even when this cannot be affirmed of the symptom, the physician will sometimes obtain good results from a practice which some may be disposed to savour of *homœopathic* principles. Take the following case for example:—

Mrs. W., æt. 29, of a slender and delicate habit of body, stated that for the last three or four years, and more especially during the spring months, she had been subject to frequent attacks of vomiting almost immediately after taking food: she first experienced a sense of painful uneasiness in the left hypochondrium, and, very soon afterwards, whatever she had swallowed was rejected from the stomach. In this manner she sometimes vomited six and seven times in the course of the twenty-four hours; the annoyance had been quite as frequent as this for several days before she applied to me. She was not pregnant, nor were there any signs of existing organic mischief anywhere. I advised her to take an ipecacuan emetic in the evening, and a draught, containing a few drops of liquor opii and acid. hydrocyan. dil., at bed-time. Next day, I found that she had rejected her food only once after the action of the emetic had ceased, and that she felt much more comfortable, although no offensive matter had been evacuated, either upwards or downwards. She was then recommended to try a sinapism over the region of the stomach, every, or every second, night. The improvement continued for several days, and then I lost sight of the patient.

I find among my memoranda the notes of another case, where the vomiting had continued for fourteen days: everything, whether in the way of physic or food, had been, during this time, rejected as soon as taken. The patient was a healthy-looking middle-aged man, who could not account for his very troublesome annoyance: there were no symptoms of *embarras gastrique* present, nor yet any feverishness or disturbance of the system, with the exception of a slight diarrhœa. He was ordered an emetic of ipecacuan, and ten small doses of magnesia in mint water, to be taken frequently. Nothing but the water which he drank, and a little mucus, was rejected from the stomach; the spontaneous vomiting, however, ceased, and the amendment continued as long as he was under my care, which was for a week or so.

But I have now to speak of some other, and still more important (at least, in certain morbid conditions of the system), effects of artificial vomiting, besides those which have been hitherto mentioned. For the better illustration of my subject, it will be of use that I should first briefly consider the physiology of this process in ordinary circumstances. The reader is probably aware that there has been considerable discordancy of opinion among medical writers as to the organs that are thought to be most immediately concerned in producing the act of vomiting, as well as to the mode in which these organs are affected. Some, as M. Chirac in former, and M. Magendie in more recent times, have supposed that the stomach itself is nearly, if not altogether, inoperative during the process; and who has not heard of the hideous and revolting experiment performed by the latter, of excising this organ in a dog, and substituting a bladder in its place? And then we are told (what rational man believes it?) that, when a solution of tartarized antimony was injected into the veins of the writhing animal, vomiting actually took place from the forcible pressure of the diaphragm and abdominal muscles upon the lifeless bag! But Nature's experiments (if we may so call congenital and pathological deviations as respect the structure and situation of organs) are a thousandfold more instructive than the mutilating butcheries of the vivisector can ever be. The case related by Drs. Graves and Stokes in the Dublin Hospital Reports—and there are several similar on record, I believe,—where vomiting took place in a patient in whom the stomach was found, on dissection, to be fairly within the thoracic cavity, a large opening existing through the diaphragm, will naturally be regarded by most sensible men as affording a very strong presumption that the organ does really aid, by its contractions, to expel the contents from its cavity. It is probably, however, by the energetic contractions of the abdominal muscles, and, indeed, of all those that are engaged in forced expiration—the diaphragm being at the same time fixed, and the cardiac orifice of the stomach relaxed and open,—that the act of vomiting is mainly effected. But, however we interpret the physiology of the process, the consequence of it is, that all the abdominal and thoracic viscera are powerfully compressed—squeezed, to use Haller's phrase, as in a press,—and their contents forcibly expelled through the openings with which they communicate. That such is the case with the liver and gall-bladder, is obvious by the quantity of bile that is often ejected upwards, especially if the strainings be unusually severe, or very frequently renewed. The urinary bladder, too, is forced to part with its contents; and if there be much fæcal matter in the intestines, it is propelled downward, and is very generally evacuated, if not simultaneously with the vomiting, very soon after this has ceased. That the lungs also experience the general compression of the viscera, appears from the large quantities of mucus that are thrown off in cases of catarrh, and the consequent relief that is often derived in this way. But it is less to these results than to the effects of constrained and forcible vomiting on the circulatory apparatus, that I wish now more especially to direct the reader's attention. Each act of heaving and expulsive straining, that takes place during the operation, being, in short, a strong expiratory effort (as Dr. Marshall Hall has, with his accustomed ingenuity, so satisfactorily shewn), is, of course, immediately followed by a rapid and powerful inspiration; and, indeed, just before the first act of heaving takes place, a quantity of air appears to be drawn into the chest, and some writers say into the stomach also. Now what, pray, are the effects of these forced respiratory movements on the circulation of the blood? I cannot answer this question better than by quoting the description given by Mr. Wardrop, in his most interesting work on the Physiology and Diseases of the Heart, now in the course of publication:—

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* The utility of promoting this symptom, even in the more advanced stage of typhus, is expressly mentioned by Dr. Lalor, in his interesting account of the epidemic fever at Kilkenny last year. He says:—"The irritability of stomach, and especially the green vomit so prevalent, often baffled treatment from the first. The best and safest general remedy, at all periods of this affection, was the application of external stimulants, as sinapisms or blisters, over the stomach. After the first twenty-four hours, internal remedies had a fairer chance; and, of these, effervescing draughts, opium, and creosote were the best. *Stimulating emetics sometimes produced a good effect very rapidly, in cases where extreme collapse was produced by constant small vomitings or nausea.* The principal emetic I used was mustard; and in the above cases reaction often speedily followed, *and the nausea or vomiting was quieted after the action of the emetic.* Emetics should be avoided when drowsiness, or any decided symptoms of head engorgement, exist. Mustard emetics had an extraordinarily good effect in cases which were admitted in a state of great collapse, with copious bronchial effusion; and emetics of ipecacuan were very serviceable in many cases of jaundice, when the constitutional powers were not sunk so low as to forbid their use."—*Dublin Quarterly Journal*, Feb. 1848.

"By whatever powers the venous blood reaches the two venæ cavæ, *inspiration*, or that movement which draws the air into the chest, assists in bringing the venous blood into the right heart. Inspiration also assists the circulation of the blood in the pulmonary arteries, the expansion of the lungs facilitating the ingress of the venous blood into the pulmonary arteries, and also permitting the arterialised blood to flow readily through the pulmonary veins.

"Whilst the entrance both of the air and of the venous blood into the chest takes place during inspiration, so, in like manner, is the air expelled, and an additional impulse given to the stream of the arterial blood during *expiration*. The diminution in the capacity of the lungs, and the subsidence of the parietes of the chest and abdomen, which take place during expiration, aid by their pressure the transmission of the arterialized blood from the lungs into the left heart, along the large arteries; whilst, at the same time, they impede the current of blood coming from the right one into the pulmonary artery. Inspiration may be therefore considered as accessary to the *venous*, and expiration to the *arterial* circulation, the one aiding the heart like a sucking, and the other like a forcing pump." pp. 58-9. This view of the relations between the respiratory and circulatory movements, in strict accordance with what Haller has taught in his Physiology, received considerable confirmation some years ago, from the experiments of the late Sir David Barry; for he found, upon introducing one extremity of a tube into the jugular vein of a horse, and the other into water, that there was an alternate elevation and depression of the water with the acts of inspiration and expiration. Dr. Carpenter, after quoting this experiment, remarks :—" It is evident that the suction of the blood into the chest will aid the flow through the veins, by removing the obstacle to it in front, although it does not exercise any more direct influence over the current at a distance. On the other hand, the expiratory movement, while it directly causes accumulation in the veins, will assist the heart in propelling the blood into the arteries; and by the combined action of these two causes, is produced, among other effects, the rising and sinking of the brain, synchronously with expiration and inspiration, which are observed when a portion of the cranium is removed."*

Now, if such be the influence of the alternate expansion and contraction of the thoracic cavity on the movement of the circulating mass during ordinary breathing, how greatly must it be increased when these acts are performed with almost convulsive vehemence!

There is probably no part of the circulatory apparatus that experiences these effects more than the vessels of the portal system. The powerful compression to which they are directly exposed, along with the viscera which they supply during the expulsive efforts of vomiting, must obviously tend to force on the movement of the blood, not only from the larger into the smaller arteries, but also along the splenic and mesenteric veins towards the sinus of the liver; while the close proximity of the orifices of the large hepatic veins to the right auricle of the heart naturally suggests the idea that they will feel the full degree of the sucking action that has been described above. Certain it is, that we know of no means so effectual in quickening and exciting a torpid circulation through all the abdominal viscera, as the operation of forcible vomiting. And is not this just what we might expect, when we consider the rationale of the process? Every medical practitioner must have had occasion to witness the marked and very prompt relief that is often obtained in this way in many disorders of these organs, in which this morbid condition is believed to be present; and the surgeon finds that, in distended and painful hæmorrhoids, there is no remedy so quickly efficacious as an emetic. Whenever, in short, there is congestion in the portal system of vessels, a vomit may be usefully had recourse to; unless, indeed, there be some contra-indicating circumstance in the case, such as the existence of cardiac disease, or tendency to encephalic plethora. It is on this principle of relieving the internal congestion, and of equalising the distribution of the blood all over the system, that the action of vomiting is so very serviceable in the cold stage of fevers, when there is reason to believe that nature may be incapable by herself of bringing on the hot one in due time; for such is the overwhelming oppression, resulting from the stagnant accumulation of blood in the visceral veins, in the malignant remittents of hot climates, that the patient, if not relieved, dies in a few hours after being seized. And here it is worthy of notice that the symptoms of such an attack often bear a striking resemblance to those of Asiatic cholera. Take, for example, the description of a case given by Torti, of the pernicious fever of Italy, more than a century ago:— " When I reached the patient, he had been several hours labouring under the disease. I found him universally cold as marble, with the pulse altogether, if I may so say, absent; breathing laboriously, and having a leaden-coloured countenance. There was some torpor, but no confusion of intellect, and his urine was secreted in a small quantity. I prescribed the bark in large doses; a gentle heat soon pervaded his entire frame; the pulse gradually returned; the respiration became natural; the face lost its leaden hue; the urine was secreted in its ordinary quantity; and in three days he was quite recovered."

Now, it has been pretty generally remarked by those medical men who have seen much of this concentrated form of fever, as it is every now and then met with in the malarious districts of hot climates, that one of the most effectual means of relieving the prostration in the cold stage of the attack—whether this prostration be indicated by a sudden collapse of the vital powers, or by an apoplectiform stupor—is the operation of vomiting; and it is not unworthy of notice, that, when the great epidemic of the cholera broke out in India, in 1817-18, many of the medical men, to whom the disease was comparatively new, upon being called to a case before the vomiting and purging had fairly set in, mistook the attack for one of malignant ague, and treated it with success by administering an emetic at first. Dr. Hartley Kennedy alludes to some instances of this sort that occurred in his own practice.* I need scarcely remark, that the *modus operandi* of the remedy in such circumstances is almost entirely by equalising the circulation, relieving internal congestion, and determining the blood to the surface of the body. "The relief, which the act of vomiting affords, in febrile disorders, does not arise (*so much*) from the evacuation of any noxious contents from the stomach, but (*as*) by producing an almost immediate change in the action of the heart and capillary system."†

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* Principles of Human Physiology, p. 443-4.

There is another set of cases in which the action of powerful vomiting has been found of unquestionable utility, and doubtless upon the very same principle, in recovering a patient from sudden and alarming collapse: I allude to the bites of poisonous reptiles and insects. Take the following instance from an author already quoted:—"I was once called," says Dr. H. Kennedy, "to an officer, who had been stung in two places by a scorpion. . . . About two hours after the accident, the sepoys of the piquet came running to me to say the 'sahib' (the gentleman) was dying. I hastened to the place, where I found the officer barely sensible. What we now call the collapse, was completely formed; the extremities were deathly cold, and a cold sweat streamed from him; whilst rigor succeeded rigor with scarcely five minutes' rest between the convulsive shudderings. I administered, as soon as I could procure it, three grains of tartar emetic, followed by hot water. *The vomiting was no sooner established than he became self-collected, and said the pain was abated; the warmth returned, followed by a copious natural perspiration.* . . . . This was the most marked case of collapse I ever saw following a sting not fatally venomous."*

The use of emetics has been very generally recommended in cases of serpent poisoning. Dr. Mead expressly advises a full dose of ipecacuan to be administered when alarming symptoms supervene upon the bite of a viper; and most of the remedies that have at different times been used with advantage in similar cases, will be found to be such as are apt to induce vomiting, as well as profuse perspiration. The volatile alkali, *eau-de-luce* or spiritus ammoniæ succinatus, a decoction of rue, a hot infusion of the aristolochia or snake-wood, &c., all act more or less powerfully as emetics and sudorifics. The ineffectual vomiting that is frequently present in such cases, appears to be truly a medicative effort on the part of Nature to maintain and equalize the circulation, that so rapidly becomes arrested under the paralyzing action of the venom.

In my next communication, I shall proceed to examine whether the therapeutic principles, explained above, be applicable to the treatment of malignant cholera, and whether the application of them in practice be justified by the results of experience.

London, Fitzroy Square,
October 28, 1848.

[To be continued.]

ON THE
BLOOD-VESSELS OF THE NERVES OF THE HEART.

By Joseph Swan, F.R.C.S: &c.

[Continued from page 751.]

Part III.

In my two preceding papers I have stated that in each nerve there is an artery which runs down the nerve and communicates with several subjacent arteries in its course; that there are two veins, one on each side, communicating by transverse branches with adjoining ones, and a large absorbent vessel. I also mentioned the general distribution of the coronary arteries, except that the two largest branches of the left, which run down externally on either side of the edge of the septum, as they descend, send branches nearly in the middle between its two surfaces, and direct smaller branches towards each surface for the supply of the muscle and lining membrane. The communicating single branch springing up at intervals from the subjacent artery, and ramifying on the nerve, may be very conveniently seen by carefully raising one edge of the nerve throughout its whole length: at the same time it will appear how it may form a convenient mode of conduct for nervous filaments to the deeper muscle.

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* Notes on Epidemic Cholera, 2nd edition, 1846, p. 218. The first edition was published at Calcutta, in 1826.

† Wardrop, *op. cit.* p. 78.

* *Op. cit.* p. 260.

By crossing the muscular fibres and arteries, the artery of every nerve in its course becomes replenished with blood from branches of different subjacent arteries; and, at the same time, each descending portion of muscle derives its supply from several nerves, and not from the same, as it would have done if the arteries, nerves, and muscles had taken one direction, and such arteries and nerves had supplied the same set of muscular fibres through its whole extent. By the adopted mode of crossing, every nerve will not fail of having its due quantity of blood through the failure of any particular artery, nor any considerable portion of muscle suffer by the failure of any particular nerve.

As the heart consists almost entirely of muscle and vessels, the nerves are principally designed for their use, whilst a minute portion only is required for the pericardium and lining membrane. As life, in adult mammalia at least, almost instantly depends on the activity of the heart, the great object in the disposal of the nerves is, their safe conduct to every portion of the arteries and muscular fibres, for regulating and sustaining their power, and combining them in action with other organs. The nerves placed on the surface of the heart are not only free from pressure during muscular action, but can from thence be conveniently disposed of. This arrangement may at first sight appear calculated for producing perceptibility, as it in some respects resembles the distribution of nerves on sensitive organs; but a little reflection will show that the correspondence, if any, is illusory; for the sentient nerves terminate on the sensitive surfaces, whilst the cardiac nerves are almost wholly expended on the arteries and muscular fibres in their descent towards the apex. Any excitement produced by ever so slight a friction of one portion of the pericardium on another, could not fail of being a frequent source of irritation and of disturbance to the circulation; and, therefore, the possibility of such an occurrence is prevented by the quality of the structure of the pericardium, and its serous exhalations. The nerves are further protected by the general distribution of the numerous veins and absorbents placed just underneath the pericardium, so that any external impression is received by these, filled with blood and lymph, and not by the nerves. It is more particularly effected by disposing each nerve between two veins, and covering it with a capacious absorbent; and, as these vessels are capable of becoming fuller during any excitement, they are thus in a proportionate degree enabled to defend the nerve.

As for some time I did not succeed in injecting fully the blood-vessels and absorbents of the heart, and as several conflicting anomalies arose in consequence, I determined to vary my mode of investigation, and the matter of the injections, until I succeeded; and as there is very little information to be derived from books on the subject, and as a full knowledge of the absorbents of the heart cannot be easily obtained unless they have been considered after they have been injected from the coronary arteries, and also in conjunction with the capillary blood-vessels, it appeared to me that the following communication might be acceptable to many who are engaged in practical anatomical inquiries:—

In injecting the coronary arteries of ten ox's hearts, the injection generally passed rather freely into the veins, but the only portions of it which ever entered the exhalants and absorbents was spirit varnish diluted with one-fifth part of alcohol, mastich varnish, mastich varnish to which one-fourth part of copal varnish had been added, a slight portion of the colouring matter of lake, and a solution of asphaltum. I have not included alcohol or spirits of turpentine, as I consider these as mere diluents or abstersive appendages. Vermilion, chrome, ultra-marine, and the heavier parts of lake combined with the preceding fluids or size, were prevented from passing, except when there had been an extravasation or the employment of inordinate force; and in one instance in which several absorbent vessels had been filled with size and vermilion, there was a decided rupture of many capillary blood-vessels. Besides the slight portion of lake and asphaltum, I believe other colouring ingredients, such as gamboge and dragon's blood, which are capable of solution in varnish or other vehicles, would enter the exhalants and absorbents. The solution of asphaltum, which is prepared, in the best kinds of the black varnish, called Brunswick black, diluted with an equal portion of spirits of turpentine, readily fills the blood-vessels, the exhalants and absorbents; and, if still more spirits of turpentine be added, I believe there is not a vessel, however minute, that it will not enter; and as putrefaction does not alter it, and the subject does not require to be heated, it may be employed as a most useful means for detecting vessels in parts in which their presence or distribution are doubtful, and it probably may fill the connections of the blood-vessels and absorbents in every part of the body. When it is diluted with mastich varnish, instead of spirits of turpentine, it is less exposed to extravasation; but its capability of minute penetration is somewhat lessened. It becomes still less penetrating if one-third of it be mixed with two-thirds of spirit varnish; but it then fills the arteries, and also enters the veins, but not the absorbents.

If vermilion mixed with varnish be put in one bottle, and lake mixed with the same varnish in another, the vermilion is seen to subside very quickly, but much of the lake to be suspended for several hours. It may therefore be presumed that the quick subsidence in the vessels does not altogether prevent the vermilion from passing, as nearly all the lake is also impeded, but that the particles of both are too gross to be carried into the beginning of the exhalants from the capillary blood-vessels, as well as into the beginning of the absorbents. The whole of the asphaltum, being in solution, is capable of admission whenever, through the quantity of fluid containing it, it is made of sufficient tenuity.

As the colouring matter of many kinds of injection, or even the fluids only, if they are too thick, do not enter the origins of the exhalants from the capillary arteries, it is clear that the exhalants must be the most minute, and that the beginning of the absorbents must also be smaller than the capillary arteries, or they must begin entirely from the exhalants and other structures. When the capillary blood-vessels are ruptured, the commencement of the exhalants and absorbents is broken through, and the injection enters the larger absorbents without any regularity.

If there was not a vascular communication or other defined means for directing the fluids, their entrance into many of the absorbents would not be effected so quickly and readily in the dead subject, in which everything must be governed by mechanical principles, but that, on the continuance of pressure on the piston of the syringe, scattered injected absorbents and misshapen accumulations of exhaled fluids in the interstices beneath the pericardium would alone be observed.

Bichat says*—"Do the absorbents arise from the capillary system? If we may judge from injections, it seems they do; for many distinguished anatomists, in forcing fine injection through the arteries, have filled the neighbouring absorbents. I have not seen anything like this; yet I am far from denying a fact attested by Meckel. If many other experiments confirm this, it is evident that it would incontestibly establish the origin of the absorbents in the capillary system, as it proves the origin of the exhalants from the same system."

For arteries I have used two ounces of vermilion to a pint of size; or half an ounce of chrome to the pint; or four ounces of vermilion to a pint of white spirit varnish. For blood-vessels and absorbents I have used equal parts of Brunswick black and spirits of turpentine, or mastich varnish instead of the spirits of turpentine. Rather more spirits of turpentine may be required, if the weather is cold. I have also used, for blood-vessels and absorbents, mastich varnish eighteen ounces, copal varnish six ounces, lake half an ounce, vermilion one ounce. The lake must be powdered in a mortar, and then the vermilion added: both must be rubbed to a smooth paste with some of the copal varnish, and then the rest of the varnish must be added. Dumeril, in his small book entitled "L'Art de l'Anatomiste," insists on the propriety of carefully mixing the colours; and he thinks, therefore, the bladders of paint ground in oil, and sold in shops, are best for mixing with varnish, and that the cakes of colour used for water-colours are to be preferred, when size is adopted.

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* Anatomie Générale, t. 2, p. 587.

As there is some difficulty in fixing the pipes in the coronary arteries, it may save others much trouble if I inform them that the aorta must be slit down to within half an inch of the semilunar valves; then the point of a finger must be inserted in each coronary artery; the pericardium over this must be removed, and the fat carefully scraped away with the end of the handle of the scalpel, so that a needle and ligature may be carried safely underneath, and the pipe be effectually secured. The needle may be carried under when the point of the finger raises the left coronary artery: but as the right artery is so much smaller, the pipe is best introduced for raising the artery: for the like purpose, the nozzle of the pipe should be introduced just far enough for effectually securing it, but not too far, as it will reach to the division of the vessel. The beginning of the artery forms something of a pouch, and unless the ligature be well tightened, the pipe is apt to slip out. A pipe of the size of the largest swan's quill is necessary for the left coronary artery, one not quite half the size for the right. From one to two pints of injection are required.

REPORTS OF SURGICAL CASES.

By Henry Smith, M.R.C.S.

Formerly House-Surgeon to King's College Hospital.

Rheumatic (?) inflammation of the testicle.

Mr. S., ætat. 23, sent for me on the evening of October 9th: he had only just arrived from Liverpool, having travelled all day on the railway. He was complaining of being very ill, and told me that he had a swelling in the testicle. On examination, I found this organ on the left side greatly swollen, very hard, and not very painful, except when it was pressed. There was at the same time considerable constitutional disturbance. I ordered him to bed directly, to take ten grains of extract of henbane, and foment the inflamed part. I learnt the following history from him:—He had been travelling for his pleasure for the last month in the north; and about three weeks since, he exposed himself the greater part of a night on the deck of a steamer, lying down. At the same time he noticed that he had a discharge from the urethra, having exposed himself a few days before to infection. From this time he felt unwell, complained of lassitude, feverishness, restlessness at night, and he noticed that his urine was very dark, and he perspired a great deal. The discharge from the urethra was mild, unattended by scalding or chordee. He had suffered from several attacks of gonorrhœa before, and had twice laboured under inflammation of the testicle. He used an injection of sulphate of zinc, which soon diminished the discharge. Four days ago, whilst at Liverpool, having felt very unwell during the previous fortnight, he found some tenderness in the testicle; and, as it rapidly increased, and he began to feel very ill, he came to town to put himself under my care.

Oct. 10.—He complains of much pain in the loins, and the testicle being much more painful when he became warm in bed. The urine is very high-coloured; tongue covered with a white fur; bowels costive. As the testicle was very hard, and not very painful, I recommended strapping to be applied, and a dose of sulphate of magnesia and henbane to be taken three times daily.

Oct. 11.—The testicle became very painful when he got warm in bed, and it was evident the strapping was doing harm. I therefore removed it at night, and gave the patient one grain of opium. I found the organ very acutely inflamed, very hot and swollen, and the cord deeply involved.

Oct. 12.—He found relief from the removal of the strapping, but there is an aggravation of all the symptoms to-day. The testicle is swollen, tense, and painful; the cord, as far as the external abdominal ring, is also much swollen, and very painful; there is considerable febrile disturbance, a furred tongue, quick pulse, and hot skin. I ordered six leeches to be applied, and the following pill every four hours:—℞. Calomel, gr. ij.; Ant. Tart. gr. ¼; P. Opii, gr. ½.

Oct. 13.—Much relief was experienced from the leeches, which bled for four hours; the patient feels no pain in the testicle, except when it is handled; but a new symptom has arisen,—he has had most profuse perspiration for some hours, of a strong acid odour, exactly similar to that arising from a patient in rheumatic fever; the urine is also very high-coloured; the tongue covered with a white fur. I ordered the patient to keep in bed, well wrapped up, and applied the strong tincture of iodine over the affected part.—Repeat the pill.

Oct. 14.—The perspirations have been most profuse, and the acid odour is strongly marked, causing a most unpleasant smell in the room. The testicle itself is smaller, softer, and much less painful; the cord, however, is still much swollen and tender; tongue cleaner; bowels open; mouth not affected by mercury. As there is great depression, he is to continue the pill, omitting the antimony, and to drink freely of a solution of carbonate of soda.

Oct. 15.—Much better; he has passed a good night, and is quite free from pain; the testicle is much smaller in size, and softer; perspiration less; urine still high-coloured; bowels confined. To take a black draught, and to continue the pills twice daily.

From this date this gentleman went on improving, and in a few days was convalescent. He still, however, perspired a great deal occasionally, and when this occurred it presented the remarkably acid odour so perceptible at first. Some hardness of the testicle and cord remained, for which he has been using an ointment of mercury and camphor.

When I was first called to this gentleman, and found he had a discharge upon him, I concluded that he was labouring under a simple attack of gonorrhœal orchitis, and therefore began to treat him in the manner I had employed with him on two previous occasions when suffering from the same complaint, which had each time been remedied in two or three days; but the means failed this time, and even, I believe, aggravated the mischief, and the inflammation came to a height greater than I have usually seen in that produced by gonorrhœa. The cause of this, I have every reason to suppose, was the existence of a poison in the blood far different from that which I at first suspected; and I found this opinion upon the circumstance of his having first fell ill about the time that he had exposed himself to cold, and his having had symptoms for a fortnight before the attack commenced, which clearly indicated the presence of some noxious agent in the system, which symptoms were—languor, feverishness, want of sleep, and particularly perspirations at night, and high-coloured urine. The most striking symptom, however, which existed after he was under my care, and which first led me to suspect that the poison of rheumatism was in the blood, was the occurrence of the profuse and acid perspirations: this condition was as well marked as I have ever noticed in acute rheumatism; the patient literally steamed with it, and the odour was so acid as to make it quite uncomfortable to enter his room. The existence, also, of the high-coloured urine, and the fact of the pain being much worse as soon as the patient got warm in bed, go to strengthen my opinion that this was a case of rheumatic inflammation of the testicle; at all events, I was induced by these various symptoms to treat the patient as one labouring under rheumatism. It may be said that there was already one sufficient cause existing for the affection, and why trouble myself about another? True, the patient had a discharge from him at the time, but we may look upon that merely as an exciting cause of the poison being determined especially to the testicle, and not to the other parts of the body which we know rheumatism generally attacks. Instances of morbid poisons being determined to a particular locality which has been injured, or is in a weak condition, are frequently seen: if this patient had hurt his knee instead of having got a discharge, should we not have seen that joint affected, and the same general symptoms exist? I do not mean to assert positively that this was a case of rheumatic orchitis,—I leave the question open for the consideration of your readers. I am aware that this disease is very rare; there is no doubt, however, that it does occur occasionally: my friend, Dr. Hensley, had a very well-marked case of it some time ago.

13, Caroline Street, Bedford Square,
October, 1848.

SINGULAR DEFORMITY OF THE HAND. BY DR. MARCUS.

A STUDENT of the Elementary School showed Dr. Marcus a remarkable appearance on his left hand. The middle bone of the ring finger had entirely dwindled away, and become absorbed; the distal joint, with its nail, was joined to the proximal joint next the metacarpus. This change had taken place in about a year. The patient could move the joint simultaneously with the other fingers.

Dr. Marcus thinks that inflammation of the internal structure had originally existed in the bone, associated with softening of the osseous structure, and contraction of the ligamentous and cutaneous structures. Slight suppuration was still present.—*Casper's Wochenschrift.* X

MEDICAL STATISTICS.

ANY instance which may be selected will almost certainly fail to be the average of its class, or will be a deserter from its law; yet there is such a combination among these erring individuals, to produce, by their joint operation, the same average from year to year, or from group to group (if large enough), that the masses exhibit indications of the prevalence of law, where individuals exhibit nothing but successions of inexplicable caprice. Mr. Finlaison calculated, from the events of preceding years, what ought to be the number of deaths which the Registrar General would be called on to record in the first year of his operations; his result was 355,968—the observed fact was 355,956. This excessive closeness of agreement was, of course, a remarkable coincidence, which might not occur again in many trials.—*Athenæum.*

MEDICAL GAZETTE.

FRIDAY, NOVEMBER 24, 1848.

IN some remarks on the dispensing of poisons for medicines, made in our last number, we adverted to the fact, that unless the whole of the circumstances were well sifted, a false accusation of murder might be easily made against innocent persons. Thus, to take the case which occurred at York,[*] where arsenic was served for magnesia,—supposing the child had laboured under intussusception of the bowels, and had had vomiting with discharge of blood from the bowels *before* it swallowed the powder,—that no portion of this powder had remained for analysis; and that the youth, instead of admitting the possibility of a mistake, had persisted in the assertion, that, although powdered arsenic was kept in the shop, he was quite sure he did not supply it for magnesia,—the parents who had the custody of the child during the time of its illness, might have been charged with the criminal administration of poison. Such a fearful accusation would derive support from the actual discovery of arsenic in the stomach, and from the entire absence of this poison in all the other medicines taken by the deceased during its illness, and would appear to be most strongly confirmed, if any medical witness could be found to swear that, from the appearance of the stomach, the arsenic must have been swallowed by the child at a period long anterior to the administration of any medicine. Our readers will, perhaps, consider that we are putting an impossible case: it may be said the discovery of intussusception of the bowels would at once account for the death of the child, unless there were anything specially indicative of the effects of arsenic in the symptoms and post-mortem appearances; that no well-informed practitioner could mistake the symptoms of intussusception in infants for those of arsenical poisoning; and that at any rate no charge of murder could possibly be raised against parents, merely on the ground that they had had the infant in their custody from the commencement of its illness up to the time of its death! It may be said, if arsenic could not be traced to their possession—if there were no assignable motive for so foul an act—if they had called in three or four medical men during the child's illness, and had manifested the greatest anxiety for its recovery—doing all that was ordered with the desire to alleviate its sufferings, and showing the deepest distress at its death—it would be absurd to suppose that a charge of murder could be by any possibility brought against them. The whole of the facts of the case, although perhaps insufficient to develope the origin of the fatal mistake, would establish their innocence. Such would be the natural inference deducible from the facts; but it is with regret we state, that a case actually involving a series of circumstances like those above *supposed*, has within a very recent period been the subject of a trial at the Central Criminal Court.[*] The facts come home to every man having a mother, wife, or child. The proof of parental affection, the absence of all motive for one of the foulest crimes known to our law—the murder of an infant by poison,—and the fact that no poison can be traced to the possession or knowledge of the person charged, may weigh as nothing in favour of innocence against a medical opinion expressed in a very positive manner upon insufficient grounds. Nay, the fact that the child has received that unceasing care and attention from its first illness to the hour of death, which only fond parents would be likely to extend to it, may be held one of the strongest facts against them. The case of *Dore* and *Spry*, has proved that nothing can be more unsafe than for parents to be incessantly in attendance on a dying child! If no medicine be given to it except by them, or in their presence; and by any unfortunate accident one of these medicines should be a poison, they must be prepared to take upon themselves the whole responsibility of its administration!

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[*] Page 848.

A very brief outline will suffice to put our readers in possession of the facts of this case,[*] which is one of the most remarkable in the annals of Medical Jurisprudence:—

An infant, of the age of four months, had suffered from thrush and the usual effects of dentition, for about two months prior to the commencement of its fatal illness. It was put to bed on Wednesday night, the 12th July, at 11 o'clock: it slept with its mother, the accused, Mrs. Dore, and one of her sisters. It was then in its usual state of health. The only food that it had taken was some rusk boiled in water, prepared in the afternoon by the sister. There was no food or liquid in the room at the time the child went to bed. It awoke at 2 o'clock on the morning of Thursday the 13th July, "and cried rather as if it had the stomach-ache."[†] The grandmother, the accused Mrs. Spry, came and applied to the child's stomach, a flannel dipped in hot water. "The child seemed to be easier afterwards, and went to sleep again; nothing was given to it but the breast. The child did not seem to be in any pain after that, until 6 o'clock, when it screamed again," and appeared as it did at 2 o'clock. It did *not vomit* during the night, but it was purged about 7 o'clock, although "not in an unusual way." Medical assistance was procured, and a mixture, containing calcined magnesia[*] and syrup of poppies, was prescribed. The accused, Mrs. Dore, left London at 8 o'clock, in company with a friend, according to previous arrangement, to pass a few days at the Isle of Wight. By the advice of the medical attendant, she took the child with her: it then seemed easy, a dose of the mixture having been given to it. During the journey, the child was in great pain, vomited occasionally, and passed some blood once from the bowels. Medical assistance was again procured in the Isle of Wight. The child vomited in the presence of the medical man then called in, and he stated that there was nothing remarkable in the matter vomited, except that it contained a large quantity of *bile*. He did not perceive any blood. This was about seven o'clock on the evening of Thursday the 13th. This gentleman prescribed a powder of mercury and chalk, an effervescing mixture, containing carbonate of soda with citric acid, and castor oil. He told the accused, Mrs. Dore, that the child was labouring under intussusception or obstruction of the bowels, that there was but little hope of its recovery, and that she had better return with it to London as soon as possible. The child was very ill that night, and appeared to be dying. The mother returned with it to London at about 12 o'clock on the following day (Friday the 14th), and her companion stated that the child appeared to be then gradually sinking. She reached home at half-past 3 o'clock on that afternoon, and her sister, who saw her on her return, deposed that the child then seemed to be very ill. Two medical men, one of them being the assistant who had prescribed for the child in the first instance, saw it about half-past 6 o'clock in the evening of Friday after its return. The abdomen was then tympanitic, and the child is described as having been slightly convulsed. Castor oil was prescribed, and a mustard cataplasm was applied to the abdomen. As the bowels were not relieved at 9 o'clock, the assistant was dispatched to the dispensary for *four grains of calomel.*[†] The *powder* thus hastily procured, and as it was afterwards proved by a person who was not authorized to dispense medicines in this shop, was administered at once by the medical man who prescribed it. It was mixed with a small quantity of milk in a teaspoon, and put down the child's throat. The child appears to have been then moribund. Other powders containing very small doses of tartar emetic and sugar, were given to it, but they had no effect; there was neither vomiting nor purging. The child sank, and died at half-past 4 o'clock on Saturday morning the 15th July; the whole duration of its illness, from the first symptom of pain at 2 o'clock on Thursday morning, until its death, making up a period of *fifty-hours.*

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[*] The Queen against Dore and Spry, August 28th, 1848.

[*] Taken from an office copy of the depositions sworn at the Judges' Chambers, and notes made at the trial.

[†] Evidence of E. S. Spry.

The body was not inspected until five days after death. It was then found that there was an intussusception of the lower part of the small intestines, so that about a foot of the intestine was completely locked in another portion near the cæcum. The strangled part was highly inflamed downwards from this point, but *not upwards*. The *duodenum*, and all the small intestines above the strangulated part, were quite *healthy*—free from any inflammation, and were full of feculent matter of a bright yellow colour. The disease, it was stated, had gone on to that degree that the passage of the intestines was completely obstructed. This was considered to be a sufficient cause of death, and certified accordingly. The medical man who made the inspection, stated at the trial "that the disease was in such an advanced state as to be incurable, and it would account for all the symptoms that were exhibited before death," as well as for the fatal result. In consequence of a dark mark, about the size of a shilling, observed on the exterior of the stomach, this viscus was sent to a "Lecturer on Chemistry" for analysis. Arsenic was found in the contents of the stomach in the quantity of about two grains: the mucous membrane was not inflamed in any part, but there was a dark patch on one portion of the lining membrane, about the size of a shilling, described as gangrenous or sphacelated, and in a state of disorganization, and immediately around this a fringe or border of a yellow substance, proved to be arsenic in the *state of sulphuret*, in quantity not more than two grains. It is important to mention that the stomach was not opened, nor its contents examined, until *a week had elapsed* from the time of death, and that *no trace of calomel*, or any mercurial preparation, was found in it. No analysis was made of the intestines or their contents, nor of the liver, or any of the tissues of the body.

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[*] Very fortunately for the accused, arsenic had not been dispensed for magnesia, as in the case at York, referred to in our last number.

[†] At the trial it was stated five grains.

Such are the medical facts of this remarkable case, as they were sworn to by the witnesses at the inquest and trial. The jury at the inquest appear to have been induced to return a verdict of wilful murder against the mother and grandmother of the infant, chiefly upon the evidence of the Lecturer on Chemistry. He deposed on oath "that the appearances which he met with in the stomach are those that are produced when the deceased has lived *at least two days* after taking the arsenic. The poison causing the *disorganization could not possibly have been taken on the day of the death.* The reason that induced me to believe that the *ulceration* on the stomach was the result of poison before I analysed the contents of the stomach, was that the whole texture of that portion of the stomach was destroyed."[*]

The charge against the mother and grandmother of administering poison was so improbable from the facts of the case, that, although committed for murder, they were immediately bailed on application to a learned judge, Mr. Baron Alderson. The bill was presented to the Grand jury, and, as our readers know, evidence for the prosecution only is received under these circumstances. In spite of the apparently strong testimony against them, the grand jury looked at the evidence as men of the world: they put no faith in the "chemical" opinion, which went to fix the administration of arsenic on persons who could have had no possible motive for administering it, and they ignored the bill! The accused were then tried upon the coroner's inquisition, and as the case had gone thus far, it was fortunate for them that their innocence became thereby clearly proved.[*] The accused, without being called upon for a defence, were immediately acquitted from the evidence for the prosecution,—the learned judge, Mr. Baron Platt, indignantly exclaiming that there did not appear to be the slightest ground for the charge.

A case like this must, to a certain extent, bring discredit on medical evidence in Courts of law; and it therefore becomes a duty to trace out the cause of this most serious mistake, which has led to the trial of two innocent persons for murder, and to the placing of their lives in jeopardy.

Our readers will perceive that there were here two most important questions for solution: 1, At what time was the arsenic given? and 2, Did the child die from the effects of the arsenic, or from that natural disease in children, not uncommon during dentition—intussusception of the bowels? The chemical witness swore very positively that the arsenic (of which about *four or five* grains only were found in the stomach) must have been in the body at least *two days;* and that the poison could not *possibly* have been taken on the day (*i. e.* within twenty-four hours) of the death. This very strong opinion of course did away with any necessity for the analysis of medicines given to the deceased in the interim; because, even had arsenic been detected in them, some of the poison must have been given forty-eight hours before death, and the first medical man only saw the child within forty-five hours of its death. Therefore this opinion was tantamount to the declaration that there could not have been any mistake in the medicines; and as the accused mother and grandmother were in attendance on the child *before* the assigned period of two days, they must have either administered the arsenic, or have been cognisant of its administration. No other conclusion can be drawn from the evidence of this gentleman.

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[*] *Office copy of the depositions.*—In another part of the depositions, this chemical witness states, the stomach "presented an appearance which I have never seen *except from arsenic*: it was my impression there was arsenic in the stomach. The appearance I allude to was *disorganization*: there were dark spots on the interior lining of the stomach: *they could not be the result of decomposition!*" We have it on good authority that there was no ulceration of the stomach, that there was beneath the mucous coat a patch, arising from blood darkened by putrefaction, the effects of which on the part were already manifested by the transformation of the arsenic from white arsenious acid to yellow sulphuret. The peritoneal coat was not destroyed. The witness admittted at the trial that the arsenic around the patch could only have become yellow by decomposition, which was perfectly true; but, with this plain proof to the contrary before him, he at the same time swore that the patch itself had undergone no change or darkening from decomposition!

[*] So strong was the suspicion of murder against these unfortunate persons, that another child of the accused, Mrs. Dore, which had died two years previously, and a child of Mrs. Spry's, which had died in April last, were actually exhumed, and their bodies examined for poison. No arsenic was, of course, found.

There were, however, some facts rather adverse to this opinion which did not transpire at the inquest. Arsenic, it is well known, exerts a very powerful action on infants: their excitable systems are soon affected by the poison, even in very small doses—the symptoms of poisoning come on speedily, are well marked in their character, and prove rapidly fatal. As the deceased infant was in its usual health up to within fifty hours of its death, there is no reason to believe that four or five grains of arsenic could have been then lying in its empty stomach without having produced some symptoms indicative of its presence; at any rate there is no reason why this should be assumed: and as the child had manifested no symptoms of alvine irritation before 2 o'clock on the Thursday morning, it is clear that if the statements of the chemical witness were true, the poison must have entered the stomach at or about that time. On turning to the history of the case, we find that the child was fed by its aunt in the afternoon, that it took nothing before going to bed at eleven o'clock, that it *slept for three hours,* then awoke with the stomach-ache, which was relieved by fomentations, and it then slept for four hours more: there was no vomiting during the night. Now, we ask our readers who know any thing of the effects of arsenic on infants, whether it is in the least degree probable that this child was then sleeping calmly with a large dose of arsenic in its stomach, which, if administered at all, on the chemical theory, must have been given to it *before* eleven o'clock, the hour at which it was put to bed! If they agree with us that it is not at all probable, they may then feel it necessary to examine more closely the grounds for this opinion of the chemical witness. There does not appear to have been any vomiting until about eight or ten hours after the period at which, according to this theory, the arsenic must have entered the stomach. The medical man in the Isle of Wight, observed only *bile,* and *no blood,* in the matter vomited, although, according to the theory, ulceration and disorganization must have been then going on. He diagnosed intussusception, and his diagnosis proved correct. There are, therefore, not only no medical grounds for the assertion that the arsenic had been in the body at least two days, but all experience of the ordinary effects of large doses of arsenic on tender infants, is decidedly adverse to it.*

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* The symptoms of poisoning by arsenic are sometimes retarded, and do not appear for several hours. This has been noticed in the cases of adults who have taken opium, or who have gone to sleep soon after swallowing the poisonous dose. Against this, we must put the more excitable state of system in infants of the age of the de-

The statement that the poison could not possibly have been taken within 24 hours of death, is as little justified by the facts. They who are accustomed to inspect the bodies of persons poisoned by arsenic, know that it is scarcely possible in any case to pronounce from the appearances, how long the poison has been swallowed. Sometimes effects are produced in a few hours, which in other cases are not witnessed until after the lapse of several days. If we except for the present the assumed patch of gangrene, there was not the least sign to indicate that the arsenic had been more than a few hours in the stomach. There was no inflammation of the stomach, of the duodenum, nor of any part of the small intestines; and had the vomiting, observed during the journey to the Isle of Wight, really depended on the action of this powerful irritant poison, it is certain that some inflammation or marks of violent irritation of the mucous membrane would have been found. We have it, however, on "chemical" authority, that there was an isolated patch of gangrene, without any inflammation of the surrounding parts, and that a dose of at least four or five grains of arsenic may remain in the stomach of an infant of four months, not only *without producing vomiting for ten hours*, but *without causing any inflammation in the stomach or intestines.** We shall leave our readers to consider the value of this specimen of chemical pathology, and now examine the evidence as to the alleged gangrene.

That any infant of four months should live long enough for gangrene of the stomach to take place, as a result of the action of a dose of arsenic at least four times as great as would be sufficient to destroy it, would be of itself a phenomenon in pathology; and that this should take place (which it must have done, if at all, in the present case) without being accompanied by well-marked inflammation of the stomach, would add to the surprise of all who have had an opportunity of witnessing the effects of this poison on the body.

Our belief is, however, that there was no gangrene in this case. Mistakes have been repeatedly made by more experienced men than the chemical witness who expressed this strong opinion; and on this point, it may be as well, for the sake of example, to quote the views of one of the most distinguished toxicologists in the kingdom. Dr. Christison says—

"Another species of destruction of the coats of the stomach, which will require a little notice, is sloughing or gangrene. This appearance occurs frequently in the narratives of the older writers; but it has not been enumerated in the list of morbid appearances, because its existence *as one of the effects of arsenic is problematical. It has not been witnessed, so far as I know, by any recent good authority.* Those who have

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ceased, who are very speedily affected by small doses of arsenic. To suppose that the symptoms of arsenic began with a stomach-ache after three hours' sleep, and that these having thus begun, then subsided, so that the child slept again for four hours, and did not vomit for at least ten hours from the time at which it went to bed, would be contrary to all experience of the effects of arsenic on children, as detailed by the best authorities, while, on the other hand, the symptoms were quite reconcilable with those which are caused by intussusception. Besides, it would be most improper to infer that arsenic had been taken from a comparison of this with rare and exceptional cases: the proof fails if the case does not take the usual course; and as the opinion of the administration of poison at this period, in the case of the deceased, was based only on a conjecture, not in accordance with other facts, it would be most dangerous to assume this conjecture as true, and then account for the *absence* of symptoms by further assuming the case to be of an exceptional kind! It would be all the more unsafe to make these assumptions, because the progress of the child's illness throughout was in perfect accordance with the highly diseased state of the bowels found after death. There was not one symptom which might not be explained by the existence of the intussusception; and, on the other hand, there was not one symptom which, either in its nature or from the time of its occurrence, could be positively referred to the action of arsenic.

* The inflammation of the bowels was observed at the lower part; it depended on mechanical constriction, and sufficiently explained the discharge of blood from the bowels during the journey to the Isle of Wight.

mentioned it have probably been misled by the appearance put on by the *black extravasated patches*, when they are accompanied *by disintegration of the villous coat*, and effusion of clots of black blood on its surface, an appearance which resembles gangrene closely in every thing but the fetor.[*] Sir B. Brodie has stated, that Mr. John Hunter has preserved in his museum as an example of the slough of the villous coat caused by arsenic, what turned out on examination to be nothing else than an adhering clot."—*Treatise on Poisons*, 4th edition, 341.

If John Hunter made this mistake, it is quite possible that the witness in this instance, whose province appears to have been rather chemistry than pathology, might have made a similar mistake. There is, however, this wide difference, that his erroneous pathological opinion might have cost two innocent persons their lives! Our readers will further observe, that this witness solemnly swore that "the poison could *not possibly* have been taken on the day of the death." But what foundation was there for so strong an assertion? The witness appears to have given it in a hasty manner, in defiance of all authority and experience on the known effects of arsenic. That which he swore could not possibly happen as the effect of arsenic in 24 hours, has actually been known to be produced by it in less than 13 hours! In a case, the details of which are most fully given by Orfila,[†] a man died in 1839 from the effects of a dose of arsenic which he had swallowed for the purpose of suicide. His death took place in less than *thirteen hours*; and we ask our readers to compare the description of the appearances found in the stomach, with those met with in the case of this child, which the witness swore could *not possibly* be produced in twenty-four hours; and also that they indicated the presence of arsenic in the body *for at least two* days! We preserve the original French, as we do not wish to lay ourselves open to the charge of altering the meaning of the words by translation. The report says:—

> "L'estomac s'offrit dans un état de désorganization complet; il contenait environ trois ou quatre verres d'un liquide rougeâtre, filant, mélangé de caillots de lait. *La membrane muqueuse gastrique n'existait plus, ou du moins ce n'était qu'une pulpe noirâtre, glutineuse, facile a détacher avec le doigt.* Au dessous d'elle on apercevait une surface, saignante, granuleuse, mameloumée, qui ressemblait à ces plaies recouvertes de *végétations gangréneuses.* Dans certains points, le tissu des parois stomacales *sphacélé à un certain épaisseur, ne* paraissait plus réduit *qu'au feuillet séreux:* près du pylore on voyait une place *grisâtre, large de trois doigts qui était comme tannée.* La membrane muqueuse qui la recouvrait semblait avoir *été* cauterisée avec un acide. Il est probable que c'est la qu'avait séjourné le poison avant d'être dissous par les mucosités gastriques. Il n'y avait nulle part de perforation."

If the chemical witness had had to give an opinion on this case, he would most probably, judging by the comparative effects, have assigned at least a week during which the arsenic must have been in the body, in order to produce such extensive disorganisation!

We think, however, we have quoted enough to shew his utter incompetency to form an opinion on a question of such delicacy and importance. The appearance in the stomach which he mistook for gangrene, was nothing more than the softening of the villous coat, with effusion of dark blood, so accurately described by Christison, as the result of the local action of arsenic on the mucous membrane. The remarks quoted from Christison and Orfila, shew that there was not the slightest ground for fixing the time of administration in so positive a manner as to inculpate two innocent women; and the entire absence of inflammation in the stomach and small intestines, except at the intussuscepted part, rendered it highly probable that the arsenic had really been but a few hours in the organ.

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[*] The reader will find, by reference to our summary of the case, that the chemical witness did not see the stomach until a week after death, in the month of July. It had then undergone decomposition, as the state in which the arsenic was found clearly proved.

[†] Traité de Toxicologie, par M. Orfila. Quatrième Edition. Tome premier, p. 316. Case of Soufflard.

It now remains to be considered, how and when it reached the stomach? A powder, consisting, as it was supposed, of four or five grains of calomel, was given to the child by one of the medical attendants, about six hours before death, and while it was almost moribund. This powder had been dispensed by a gentleman "in a hurry." It appears that bottles, containing arsenic in powder, calomel, and a mixture of calomel and sugar, were kept in the shop; and it was no part of the duty of this person to weigh out powders or dispense medicines in the shop. The following is an extract from his evidence at the trial:—

"We keep white arsenic in our shop, and also another preparation of arsenic called *liquor arsenicalis*. The former is never used in any medical preparation. The white arsenic was kept on a shelf by itself, and the other preparation *was kept in another shelf underneath it*. I am quite sure I did not take down the white arsenic at the time I made any preparation for the child.

"*Cross-examined.*—It is not safe to keep white arsenic in a shop similar to ours. Mr. —— ordered me to make up a powder of calomel. Calomel is a white powder similar to arsenic. Mr. ——'s nephew saw me make up the powders. I am not a member of the College of Surgeons or a licentiate of the Apothecaries' Company. I never saw a case of intussusception (locked bowel), but I have heard of such a malady.

"*By the Court.—It is not part of my duty to dispense medicine, but I did so in the morning* on the first occasion, because Mr. ——'s nephew had not come down stairs. The *second time I did it because he was busy making up other medicines.* The colour of arsenic and calomel are the same, and there is very little difference in their appearance except that one is finer than the other. It is my duty to see that the bottles are replaced in their proper position when they are taken down. The bottle which contains arsenic has a gold label with black letters, and the other preparation of arsenic has a different kind of label upon it. I was *in a hurry* when I made the second lot of powders."

On examining the assistant referred to in the above evidence, whose duty it was to dispense medicines, the following information was elicited:—

"The powder was white. I know that white arsenic was kept in the shop, but I did not sell any arsenic that night.

"By the COURT.—I should not know calomel from arsenic by its appearance. I don't know whether arsenic is rougher in appearance than calomel. I never examined them together. I cannot say whether calomel being mixed with sugar would give it still more the appearance of arsenic.

"Mr. CLARKSON remarked that h thought it was fortunate for the public tha this gentleman had not succeeded to th retail drug trade of his uncle."

That a mistake might have been made under such circumstances was, *primâ facie*, by no means improbable; and that it was really made, appeared certain from the evidence. The arsenic could not have been long in the stomach of the child: the absence of any special symptoms, as well as of inflammation, was a proof of this. The whole of the powder was swallowed: the innocence of the accused, and the mistake of the gentleman who dispensed the white powder "in a hurry," could not be proved by an analysis of any portion. The quantity of arsenic found in the stomach corresponded to about the weight of the powder, and not a particle of calomel or any mercurial preparation was found in the stomach after death, although so large a dose was alleged to have been given to the child a few hours before it died! Either this view must be adopted, or we must suppose that all the usual effects of arsenic were absent in this case, and that affectionate parents wilfully poison infants without motive, and then call for the assistance of three or four medical men to try and recover them! The arsenic thus administered had no effect on this child, probably because it was at the time in an exhausted and dying state. Even doses of tartar emetic exhibited about the same time failed to excite vomiting. The poison reached the stomach, and there produced that local action on the part of the villous coat with which it came in contact, which was subsequently mistaken for gangrene. Whether this be the true explanation or not, there does not appear to have been the slightest ground for assigning the period of administration to at least two days previous to death, and thereby imputing an act of murder to the accused.

It follows, from the preceding remarks, that the child was dying from internal strangulation of the bowels when the arsenic was swallowed; that the early symptoms under which it suffered were not those of arsenic, but of intussusception; and that the diagnosis formed by the medical practitioner in the Isle of Wight, of the nature of the disease, was perfectly correct, and borne out by the post-mortem examination. Death, as it appears to us, was very properly ascribed to intussusception; and, had a little more care been taken in the investigation,—had *pathology* as well as *chemistry* been regarded,—this most unfortunate mistake, which has plunged a respectable family into the deepest distress, would not have been committed. The drawing an inference *against* the accused from the absence of poison in the medicines, when it was well known that there was *one* of these medicines—a powder—which had not been, and could not be, analysed, was most unjustifiable. This fact should have been distinctly stated to the coroner, as well as the important circumstance that, although calomel in a large dose had been said to be given a few hours before death, and the child had not vomited subsequently, no trace of any mercurial preparation could be found in the stomach. The jury might then have been led to suspect what was, as far as human evidence can go, proved to be the cause of the mistake; and the accused females might not then have been exposed to the ignominy of a public trial for the murder of a child towards whom they had always displayed the greatest affection. There was also a scandalous omission in the neglect to examine the liver, as well as the intestines and their contents, for arsenic. The analysis of these parts would have thrown light not only upon the quantity of poison taken, but the time during which it had been within the system. Had no arsenic been discovered in these viscera, the evidence would have been most conclusively in favour of the accused, and would have at once established the falsity of the charge.

As to the dispenser who undertook "in a hurry" to weigh out five grains of calomel in a shop in which arsenic (in powder!) and calomel and sugar were kept on shelves above each other, we have one word to address to him. He is "quite sure" that he did not weigh out the white arsenic for the calomel! As none of the powder was left for analysis, he has, of course, the benefit of this assertion; but as no calomel, but only arsenic, was found in the body, in about the same weight as that prescribed, the evidence is rather strongly in favour of his having made a mistake. As to his being quite sure of his not having taken one bottle for another, this is the uniform assertion of all who have erred from accident, and not from design. The youth who lately served *arsenic* for *magnesia* in the York case, and the druggist who dispensed *strychnine* for *salicine*, were equally sure that they had made no mistake, or the fatal results would not have occurred. In those cases, however, the mistakes were clearly brought home to them: some of the poison supplied for medicine remained, so that its nature might be determined; and we believe, from the whole of the facts, that, could any portion of the powder administered to this child have been procured, it would clearly have been proved by the Lecturer on chemistry to have been *arsenic!*

We have occupied an unusual portion of our space with this case; but the details appeared to us to be of sufficient importance to justify this. So long as poisons are freely exposed on shelves in retail shops, accidents will occur; and they may not only cause death, but implicate innocent persons in a groundless charge of murder. In the meantime, the case clearly proves that mere chemistry without pathology, and some reference to the experience of others, is quite inadequate to the solution of these intricate medico-legal questions; and that unless great care be taken in the reception of this kind of evidence, innocent persons may incur the risk of a capital conviction through want of experience and due caution in the witness.

IT will be seen by our summary at page 910, that the weekly deaths exceeded the autumnal average by 34. There is some abatement, however, in the mortality from zymotic diseases, which are less by 28 than those registered in the preceding week. The deaths from cholera are not so numerous: this cannot be ascribed to increased cold, because the temperature has been unusually high during the last few days. The cases of Asiatic cholera in London and its vicinity, reported on the 17th inst., were four, and there were three deaths; on the 20th, one case, and one death; on the 21st inst., eight cases, and four deaths; and on the 22d, one case and one death. But very few cases have occurred in the provinces,* and the severity of the disease appears to be considerably diminished in Scotland. The total number of cases recorded up to the 22d inst., are

	No. of Cases.	Deaths.	Recovery.
In London & vicinity	396	212	95
In the Provinces . .	77	48	10
In Scotland . . .	772	376	122
Total	1,245	636	227

The disease appears to have ceased among the convicts at the hulks.

ROYAL COLLEGE OF SURGEONS.

THE following gentlemen were admitted members of the College on the 3rd inst.—W. B. Wall—J. Elkington—T. Newham—M. W. B. Coulcher—J. Falconer—J. F. Pellegrin—B. Marsack.

Admitted on Friday, November 17th.—A. H. Daniell—C. T. Harvey—W. W. Scholefield—C. W. Morris—J. Williams—W. Hervetson—R. Barnes—A. D. Dunstan—G. F. Cooper—W. L. Howard.

A NEW ALKALOID IN CINCHONA.

M. WINCKLER has detected, in some cinchona, closely resembling that of Huamilies, the presence of a new alkaloid, *quinidine*, which crystallizes in a form similar to amygdaline. The crystals under the microscope are rhomboidal: they are very hard. Quinidine is more soluble in alcohol than cinchonine, less so than quinine, but almost insoluble in water. Sulphate of quinidine is not easily distinguished from sulphate of quinine, from which it differs only in the greater facility with which ammonia precipitates cinchonine from its solution. When sulphate of quinidine exists in sulphate of quinine, it may be separated by carbonate of soda. Quinidine is soluble in alcohol of sp. gr. 0.863.—*Journal de Pharmacie et de Chimie*, October 1848. X

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* From the report of the 22d, it appears that 20 cases have suddenly occurred at Chesham, Bucks, and eight have proved fatal.

Reviews.

Surgical Anatomy. By Jos. Maclise, Surgeon. Imperial folio. Fasciculus I. London: Churchill. 1848.

Although this is the age of cheap medical literature, it is impossible to glance at this publication without some feeling of surprise. In this fasciculus we have, for the sum of five shillings, four large plates on surgical anatomy, containing no less than eight figures, drawn on stone, with the blood-vessels coloured. To each plate, besides the description of the figures, there is attached a commentary, containing physiological, pathological, and surgical remarks on the parts represented. In Plate 1 we have delineated the form of the thoracic cavity, and the relative position of the lungs, heart, and larger blood-vessels. Plate 2 represents the surgical form of the superficial cervical and facial regions, and the relative position of the principal blood-vessels, nerves, &c.; Plate 3, the surgical form of the deep cervical and facial regions, with the blood-vessels and nerves; and Plate 4, the surgical dissection of the subclavian and carotid regions, with the relative anatomy of their contents.

The object of this work, as we are informed in the preface, is to present to the student of medicine, and the practitioner removed from the schools, a series of dissections demonstrative of the relative anatomy of the principal regions of the human body. With the latter class it is intended to revive that knowledge which is absolutely necessary, not only for self-reliance, but for success, before an operation is undertaken. In this point of view, teaching by illustration becomes of great practical utility. To the student of medicine the work will be valuable, because it will impress upon his mind the importance of combining a knowledge of surgical anatomy with his dissections: it will also teach him where to look for the various blood-vessels to which ligatures are applied, and the nerves which accompany them. The lithographic drawings are on such a scale as to allow every part referred to in the accompanying commentary to appear with distinctness; and Mr. Maclise has adopted the judicious plan of multiplying his drawings rather than of giving too much in one. We learn from the preface that the illustrations have been made by the author himself, from his own dissections, planned at University College, and afterwards realised at the Ecole Pratique and the School of Anatomy, at La Pitié, in Paris. They are executed in a bold style, and with that accuracy as to the relative position of parts which could only proceed from the pencil of the practical anatomist. We are particularly struck in fig. 2 of plate 4, by the accurate delineation of the subclavian region, and the delicate handling by which the platysma myoides is made to cover, and partly to conceal beneath its fibres, the external jugular vein. There is one piece of advice, however, which we wish to give the artist, namely, that the drawings should be finished with lighter shading. In the figure of plate 4, the shadows of the features pass almost to blackness, the great defect of lithography: this does not interfere with the clearness of the vessels in the subclavian and carotid spaces, the colouring of which is true to nature, but it tends to damage the general effect. The author's composition requires, also, a little emendation. The following sentences, for example, are not only objectionable on account of the involved style adopted, but they are open to the charge of bad grammar:—

> "It will, however, sound more euphoneously (!) with reason, and at the same time, I believe, be found not altogether unrelated to the useful, if, when such conditions as 'the anomalies of form' present themselves, we can advance an interpretation of the same, in addition to the dry record of them as isolated facts. Comparative anatomy, which alone can furnish these interpretations, will therefore prove to be no alien to the practical, while it may lead explanation to those bizarreries which impede the way of the anthropotomist."

This strongly reminds us of Jeremy Bentham, with his "ante-jentacular" walks, and his "post-prandial" discussions! Such words as "euphoneously," "bizarreries," and "anthropotomist," are not English. In the descriptions of the plates, the author avoids these vagaries: it is only where he attempts to dip into "transcendentalism" that he indulges in this singular style. But the affectations which may be tolerated in the writings of Bentham and Carlyle are inadmissible in a work on surgical anatomy.

The value of a serial work of this magnitude, must of course depend upon the judicious selection of the subjects for illustration. If we are to judge by this fasciculus, the subscribers will have great reason to be satisfied with the work, which will certainly be the cheapest in the way of anatomical illustration that has appeared in this country. Such a work as this will be found serviceable by junior operators in all hospitals and infirmaries, as a ready source of reference prior to undertaking an operation. It will also materially facilitate the labours of the clinical professor, by rendering it unnecessary for him to appeal to rough drawings on paper, or to rougher diagrams made extemporaneously in chalk.

Clinical Midwifery: comprising the histories of five hundred and forty-five cases of Difficult, Preternatural, and Complicated Labour. With Commentaries. By Robert Lee, M.D. F.R.S. &c. 2d ed. Small 8vo. pp. 228. London: Churchill. 1848.

The title of this work, and the name of the author, will sufficiently recommend it to our readers. There is no better way of teaching than that of furnishing reports of cases which have fallen under the notice of one competent to observe and record facts. Although the work appears in an unpretending form, it embodies a large amount of experience. It will be found a most serviceable guide to the young accoucheur; for, while it lays before him the difficulties which he may have to encounter in practice, it shows him how these difficulties are to be overcome. We shall only remark, in conclusion, that to this edition have been added one hundred and forty-five new cases which have come under the author's observation during the last five years.

Chemistry no Mystery; or, a Lecturer's Bequest: being the subject-matter of a Course of Lectures. Edited by Dr. Scoffern. 2d ed. 8vo. pp. 308. London: Hall. 1848.

These lectures are of a popular kind, and are written in a familiar and colloquial style. The preface informs us that they are by an "unknown author:" hence there is great mystery about the authorship of the work, if not about the subject of which it treats. The volume is adapted to the understandings of the junior pupils of schools, but is not so abundant in information as the manuals of Dr. R. D. Thomson and Mr. Bowman.

Proceedings of Societies.

ROYAL MEDICAL & CHIRURGICAL SOCIETY.

November 14, 1848.

J. M. Arnott, Esq., F.R.S., President.

The Society commenced its meetings for the session this evening. The library was unusually crowded.

On the Employment of Nitrate of Potass in Acute Rheumatism; with Suggestions for the Use of Saline Solutions as External Applications in Local Rheumatic Inflammation. By W. R. Basham, M.D., Physician to the Westminster Hospital.

The author takes, as the basis of his essay, the following facts: 1st, that in acute rheumatism, as in other inflammatory diseases, the most important changes in the composition of the blood are the increased quantity of fibrine, and the deficiency of the saline ingredients; 2d, that where this state of the blood exists there is a special disposition to the deposit of fibrine, and the formation of adventitious tissues; while in diseases in which the fibrine is deficient, and the salts in excess in the blood, the blood does not coagulate, and hæmorrhages of a passive character occur; and 3d, that although, as his own experiments have satisfied him, saline solutions have not the power of dissolving coagulated fibrine, yet certain salts in solution, mixed with the blood at the moment of its escape from the body, possess the property of suspending or retarding the separation of the fibrine. He next inquires whether any therapeutic principle can be derived from these facts, and proposes the question whether saline remedies, largely employed, may not suppress the tendency to the fibrinous exudation, or retard it, so as to give time for other remedies to diminish the proportion of fibrine present in the blood. With reference to this question, he alludes to the observations of several physicians on the use of nitrate of potash in acute rheumatism, and details his own experience of its effects. He gives one, two, or three ounces of nitrate of potass, largely diluted (in two quarts of water), in the twenty-four hours. In the majority of cases no obvious effect is produced on the force or frequency of the pulse, the digestive functions, or the quantity of urine exuded. But the urine always acquires a high specific gravity, and nitrate of potass may be detected in it. The swelling, heat, and pain of the joints affected with rheumatism, are relieved in a most marked degree, even when no other remedies are employed at the same time. There is a certain amount of exemption from cardiac complication; and cardiac inflammation, when present, is more amenable to remedies. In a case which the author relates, he examined the blood of the patient before the commencement of the saline treatment, and again after this treatment had been continued for some days. In the first instance it was buffed and cupped, the fibrine was in excess, and the salts deficient. After the administration of the nitre, there was no buffy coat, the proportion of fibrine had diminished, and that of the salts greatly increased. The author presumes, therefore, that while the internal use of the nitrate of potass assisted to restore the proportion of the saline constituents, the other treatment employed tended to lessen the excess of fibrine. Some remarks of Mr. Gulliver have led the author to investigate the effects of the external application of saline matters to parts affected with rheumatism. His experiments have been principally made with nitrate of potass. In chronic rheumatism he has used the iodide of potassium, and in gout the bibasic phosphate of soda. He applies the saline substance by means of the spongiopiline, a portion of which, large enough to envelop the part affected, having been moistened with water, the salt employed is sprinkled in powder freely on the spongy surface: it is then applied to the part, and secured with a roller. In numberless instances, by this simple treatment, he has witnessed the most palpable and instant relief to the local inflammation. Constitutional remedies were employed at the same time, but the relief was proved to be due to the saline applications, by the fact, that where several joints were affected, only those were relieved to which the salt was applied. At the end of the paper, the author gives an abstract of seventy-nine cases of acute rheumatism, showing the results of treatment, and other particulars.

Dr. HENRY BENNET had witnessed the results of a similar mode of treatment to that practised by Dr. Basham, in Paris, in 1837, and subsequently. In that year, M. Gendrin had instituted a series of experiments with the nitrate of potash, in acute rheumatism. He gave it in doses varying from six to twelve drachms. He had seen this treatment adopted in about as many cases as were recorded in the paper before them, and with the same result. It was found to be a safe, powerful, and energetic remedy. In the experiments of M. Gendrin, no other medicine was given, not even aperients. The result of the treatment was generally successful, but in every tenth or twelfth case it was found necessary to resort to the old remedies—bleeding, calomel and opium, &c. It was noticed, also, that patients treated with the nitrate of potash were usually free from cardiac disease, more so, indeed, than when any other kind of treatment was adopted. Another noticeable circumstance connected with this mode of treatment was, that patients recovered more rapidly from the disease than when any other plan was pursued. This was most important, particularly in Paris, where bleeding was often resorted to, to a considerable extent, and patients were consequently kept months, and even years, in a weakly condition. He had never seen any injurious effects from the large doses given. This, no doubt, was owing to the large quantity of fluid in which the medicine was dissolved. In all cases of poisoning by this agent, recorded in works on medical jurisprudence, the quantity of fluid used was small. He (Dr. Bennet) had recorded some cases treated by this medicine, in the Lancet of 1845. The plan pursued was perfectly original, and the originality was due to Dr. Basham. In slight rheumatic cases, in which there was little febrile action, this treatment was most beneficial, the patients recovering in four or five days.

Dr. C. J. B. WILLIAMS inquired the number of days that it required to give relief to the acute symptoms in rheumatic fever.

Br. BASHAM said, that in only two cases had he treated the disease by nitrate of potash alone. The acute inflammatory symptoms usually gave way on the third or fourth day; and it was important to state, that in no one case treated by the nitrate of potash had there been any relapse. This was a strong recommendation of the value of the treatment, when we recollected how common relapses were, when the other modes of treatment were employed. In the first instance, he had given as much as four ounces of the salt in the twenty-four hours, but he had now reduced the quantity to one or two ounces in that period. A great quantity of the salt escaped by the urine, the quantity of which was not much increased, but its specific gravity was a great deal higher, averaging between 1030 and 1040. This increase in the specific gravity he considered was due to the potash.

Dr. C. J. B. **Williams** did not think this increase in the specific gravity of the urine was due to the nitrate of potash; but regarded it as the result of the elimination of urea and the salts of lithic acid from the system. This, or an increase in the quality of the urine, was a circumstance which obtained when elimination was treated by other remedies. The result of his own experience by another treatment, that by salines and colchicum, with bloodletting, when necessary, was, that convalescence usually took place from the third to the sixth day, and a cure was effected in from two to three weeks, according to the severity of the cases. Feeling doubtful, at one time, as to the relative effects of the salines and colchicum on the disease, he determined to treat some cases entirely by the former, and with this view, gave in subacute rheumatism the carbonate and tartrate of soda freely every two or three hours, until four or five drachms were given in the day. These remedies mitigated the pain and fever, but the rheumatism continued, although the salines were unremittingly persevered in for ten or twelve days. Colchicum was then added, and in three days the pain was gone, the specific gravity of the urine becoming, at the same time, much higher from the presence of urea and the lithates. It was remarkable, too, that the urine often retained its acid property, even in cases where the perspiration was acid.

Dr. **Basham** had expressly stated in his paper, that he regarded, and had employed, the nitrate of silver only as an adjunctive remedy. He resorted to other remedies, among which might be mentioned colchicum. He agreed with Dr. Williams as to the cause of the increase of the specific gravity in urine as high as 1028 to 1030, but the excess beyond these figures he believed depended on the nitrate of potash.

On the Advantages of Solutions of Caoutchouc and Gutta Percha in Protecting the Skin against the Contagion of Animal Poisons. By William Acton, Esq.

The author states that he has been engaged in performing various experiments with solutions of gun cotton, gutta percha, and caoutchouc, with a view of testing their property of protecting the surface from the influence, by contact, of contagious poisons, and the following are the conclusions at which he arrived:—1. That a solution of gun cotton, when dry, corrugates the skin too much to be available for the purposes required. 2. That gutta percha alone is devoid of elasticity and sufficient adhesive quality, whilst the solution of caoutchouc wants body and is too sticky; but that—3. The compound solution of caoutchouc and gutta percha possesses the requisite qualities to fulfil the purpose required. It is prepared by adding a drachm of gutta percha to an ounce of benzole (the volatile principle of coal naphtha), and ten grains of India rubber to the same quantity of benzole, each being dissolved at a gentle heat, and then mixed in equal proportions. The author has employed this compound in painting the surface surrounding a chancre with the solution, and found that the acrid secretion had no effect upon it when dried, and warm or cold water may be applied with impunity. He considers that it may be employed advantageously in many and various; ways as in protecting the hands during post-mortem examinations, in preserving the cheek from excoriation in gonorrhœal ophthalmia, and in covering the parts contiguous to a sore where water-dressing is the application, &c. A letter from Mr. Quekett to the author states the results of that gentleman's examination of these several solutions under the microscope. A dried film of the compound is described by him to be perfectly elactic and free from perforations, though in many parts less than the $\frac{1}{300}$th of an inch in thickness.

⁂ During the reading of Dr. Basham's paper, the ballot-box went round so frequently, amid so much noise and confusion, that it was impossible to hear more than a fourth of that valuable production.

PARIS ACADEMY OF SCIENCES.

Sitting of November 13, 1848.

On the Presence of Sugar in the Liver.

M. **Pelouze** announced that MM. Cl. Bernard and Ch. Barreswill had demonstrated the presence of a notable quantity of sugar in the liver both of man and animals. By fermentation they obtained alcohol from this sugar, a sample of which M. Pelouze exhibited to the Academy. Hitherto no means had been ascertained of obtaining from the liver other than a kind of molasses charged with salts, the sugar of which was uncrystallized. Repeated experiments have enabled MM. Bernard and Barreswill to establish the fact that the sugar, which exists in considerable proportion in the tissue of the liver, is not found in a normal state in any other organ, and that consequently the liver is, on this account, chemically distinguishable from all the other organs of the animal economy. They have satisfied themselves that the liver always contains the same large proportion of sugar, even in animals completely deprived of food containing either sugar or starch, and kept for a long time exclusively on animal diet. They conclude that the existence of sugar in the liver is a physiological fact completely independent of the kind of food taken.

MM. **Bernard** and **Barreswill** announced it as their intention to prosecute the experiments they have commenced, having for their object to determine by what processes, and by means of what substances, the sugar is formed in the animal economy.

M. **Audouard** read a paper "On Infection and Pathognomonic Contagion," which was referred to a commission to be reported on.

M. **Pouchet**, of Rouen, presented a communication "On the Organs of Digestion and Circulation in the Infusoria." A

Medical Trials and Inquests.

IMPORTANT DECISION UNDER THE APOTHECARIES' ACT.

COURT OF COMMON PLEAS, NOV. 16.

Young v. *Giger.*

This was an action brought by the plaintiff, as a surgeon and apothecary, to recover the amount of his bill, in which the verdict was found for the plaintiff. On a former day a rule *nisi* was obtained by Mr. Parry for a nonsuit, on the ground that the plaintiff, as a practitioner in London, had not a certificate to practise within the Apothecaries' Act, and that he therefore could not recover.

Mr. Serjeant Byles (with him Mr. Wordsworth) now showed cause. They contended that as the plaintiff had, under the 14th section of the Apothecaries' Act (55 George III., chap. 194), obtained a certificate of fitness to practise, he was entitled to recover. The 19th section of the act provides that apothecaries obtaining such certificates should pay £10 for a license to practise in the metropolis, and £6 for the same license in the country. The 20th section imposes a penalty for practising without such a certificate; and the 21st section provides that, without a certificate of fitness to practise, an apothecary cannot recover. The learned counsel contended that the plaintiff had a certificate of fitness, which was given in evidence at the trial; and if the plaintiff had not paid the larger payment to entitle him to practise with it in London, that the fact should have been specially pleaded. In support of their argument, the learned counsel quoted "Chadwick v. Bunning," (R. and M. 306; 2 Car. and P. 100, S. C.)

Mr. Parry, in support of the rule, urged that the plaintiff had not such a certificate as the statute required to enable him to practise in the "city of London, or the suburbs thereof."

The Court, in giving judgment, said, the rule for a nonsuit must be discharged. Looking at the scope and intention of the act of Parliament, the 21st section had been complied with. The object of the statute was to prevent unfit persons from practising, and the Apothecaries' Company were also to receive certain fees. It was clear that a person who went through the proper examination, and showed that he was skilled in medicine, was entitled to a certificate absolutely and generally to practise as an apothecary. There were no different graduations of fitness for practising in the one place or the other; but it was in the gentleman's election to practise in either. If he practised in London, he must pay £10, if in the country £6. This was a fiscal regulation for the benefit of the Apothecaries' Company, which could be enforced by penalty under the 21st section. But it did not appear to the Court to be within either the letter or spirit of the act to say, that because he had not paid the larger fee, he could not recover his debt incurred in London. The Court were of opinion that the certificate was rightly given in evidence under the plea of the general issue, and the rule for a nonsuit must be discharged.

Rule discharged.

Correspondence.

THE CHOLERA—RESULTS OF TREATMENT BY CHLOROFORM.

Sir,—I beg to send you a short statement of the cases of Cholera which have occurred in this Asylum, and which I shall feel obliged by your inserting, if possible, in your next number.

In a few days I shall forward a more detailed statement in a tabular form, comprising the date of attack, name (initials only), sex, age, occupation, previous habits, bodily condition, remedies employed, and the results.

At present, however, I am desirous of the inclosed appearing as soon as possible, in consequence of the numerous letters I receive from the profession relative to the progress of the malady, and in particular to the treatment by chloroform.—I am, sir,

Your obedient servant,
James Hill, M.D.
Resident Medical Superintendent.

Peckham House Asylum,
Nov. 13, 1848.

Memoranda of Cases of Cholera in Peckham House Asylum.—Treated by Messrs. HILL *and* FERGUSON.

Total number of—

Malignant cases	42	
Relapses	6	
		— 48
Recoveries	33	
Deaths	15	

Treated by chloroform, as the sheet-anchor:—

Cases	37	
Relapses	6	
		— 43
Recoveries	31	
Deaths	12*	

All of these were undoubtedly cases of confirmed malignant cholera; and, with scarcely an exception, presented the whole of the following symptoms, viz. vomiting, purging, cramps, and collapse; while in many the characteristic blueness of countenance and extremities was well marked.

The great object in the treatment is to get the patient under the influence of the chloroform before the collapse is *extreme*, and the system has been drained by excessive discharges, in which cases the amendment has appeared to be merely temporary.

Many of our cases have been struck down lifeless, as it were, from the very first; and in such, I fear, no remedy will ever be found of much avail.

In addition to the above malignant cases, we have had nearly sixty instances in which the following premonitory symptoms occurred—namely, nausea, diarrhœa, pains in the bowels, shivering, and coldness of the extremities; but which, for the most part, readily yielded to ordinary treatment, although it is not improbable that many of them would have relapsed into a more severe form unless checked at the onset. These, of course, are not taken into account in our statistics of the disease.

POISONING BY MISTAKE IN THE DISPENSING OF MEDICINES.

YOUR remarks on the 17th inst. upon "Poisoning by mistake, in dispensing medicines," induce me to offer a few observations upon the subject, strongly confirming your views and recommendations.

Having passed the whole of the active years of a long life at the head of a considerable dispensing establishment, my attention was very early called to the serious importance of "poisoning by mistake," not by dispensers of medicine alone, but by the much more frequent occurrence of such accidents in families of all ranks, and I then, between forty and fifty years ago, adopted the plan of using square bottles for every article in the shop, solid as well as fluid, the use of which required more than common care and attention; and the labels upon them were painted in a manner different from others. I also used square bottles of one and two ounces for liniments and such things as under common circumstances might be mistaken for draughts; and bottles of the same character, cast with the word "laudanum," in very distinct letters upon them; for I had already seen repeated instances of bottles of laudanum, so commonly to be met with in almost every house, being used and given by mistake, not only by nurses and common domestics, but by the principals of families. As such bottles are to be commonly had, they ought to be more generally used.

Arsenic was kept under lock and key, and never sold without a proper written order.

I can now recollect, with great satisfaction, the good effects of these precautions; and I would strongly urge upon you the occasional repetition of such notices, for few can be ignorant how very difficult a thing it is in every rank, every profession, and every important concern of life, to guard against the stupidity of some, and the negligence and carelessness of others; and from which and their consequences, we must, I fear, never expect to see human nature exempt: but they may be mitigated, and this object is well worthy the effectual assistance which you may give to it. B.

Nov. 20th, 1848.

THE MEDICAL AND CLERICAL WIDOWS AND ORPHANS' ANNUITY SOCIETY AND BENEVOLENT FUND.

SIR,—A project is in contemplation which has already been submitted privately to, and approved by, a great number of the profession, to establish a Society with the above designation.

According to the views of the projector, the professional association is to have a twofold object.

First,—To enable members of the Society to secure one or more annuities of from £15 to £20, to a widow or orphan, nominated and paid for by such fees or premiums as may be adequate to the purpose; not more than three or four of such annuities to be granted to any one nominee. These annuities to be given without any reference whatever to the pecuniary means of a nominee, but subject only to the contingency in the case of a widow, of her second marriage; in that of a son, of his arriving at the age of 21 years; and in that of a daughter, of her marriage, and provided the member shall have paid five clear annual premiums previous to his decease.

It has been demonstrated that upon such a principle as that now proposed, a far smaller amount of present sacrifice will be demanded than would be required by any ordinary insurance company for an equivalent sum to be paid at death; and when we consider that the motive which ordinarily induces men to insure their lives, is to secure to their widows and children some provision in the event of their own premature decease, the importance of effecting this so as to embrace the greatest advantages with the least amount of present outlay consistent with security, must be obvious, and cannot be regarded otherwise than as an unquestionable proof of the superiority of the annuity plan.

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* Two of these, however, were dying before the chloroform was thought of as a remedy.

With regard to the widows and orphans branch, it may at first view be urged that these suggestions imply an invasion of the field already occupied by another highly valuable and long-established institution, and professing, to a certain extent, similar objects with those contemplated by this association. But the promoters at once disclaim all such desire or intention, inasmuch as in fact they will be found to be totally dissimilar; the great object of this Society being to render its benefits universal, free from all exclusiveness (except as applied to the above professions), open to all (with perhaps but few exceptions) who may be disposed to contribute to its funds, or who may anticipate deriving benefit therefrom; relieving the widow from the humiliating consciousness of being dependent on charity, which a detail of her circumstances naturally engenders, and the painful exposure to which she is otherwise subjected. In short, to grant its annuities, as a right, and as the fulfilment of a contract, precisely as an assurance society pays its obligations.

Second,—The second object of the proposed association is to grant annuities to superannuated members; and inasmuch as this purpose involves more contingencies, and is intended to apply only to members no longer able to follow their profession, and so unfortunate as to have failed to secure themselves a subsistence, it is to be designated

The Benevolent Fund.

The institution of a fund for this purpose has been universally admitted to be most desirable.

This branch of the proposed plan does not contemplate a charitable and temporary aid to persons who, unfortunate in the prime of life, would seem better adapted to other pursuits; but it is intended to save from penury in the decline of life, men who have honourably struggled for themselves, and have in times of comparative prosperity been willing to assist others; its relief being confined to those who have for not less than five years subscribed to the fund.

It is proposed that the subscription to this fund shall be £1. 1s. annually; all subscriptions for the first five years, with the interest thereon, together with life subscriptions of £21, are to be funded. After the first five years of the existence of the Society, the total interest of the capital, together with three-fourths or four-fifths of the income arising from members of five years' standing, is to be available for distribution. Should the number of claimants on the fund of superannuation, without adequate means of support, be not more than 3 per cent. of the members, a sum not exceeding £30 is to be awarded to each annually, and the balance carried to the general fund. Should the number of claimants, whose claims shall be admitted, be 5 per cent. or upwards, so that the sum available will grant only £20 each, such shall be the annuity awarded, so that the annuities shall range between a maximum of £30, and a minimum of £20. But, should the number of claimants exceed that which would give £20, on the division of the available fund, then the claimants on the fund shall (by rotation) be admitted to its benefits.

It only remains to be added, that the foregoing project emanates from no professional party, is dictated by no selfish views, but is open to every member of both professions to come forward and take a part in its management, or to give suggestions for modifying its principles or organization. A sufficient number of persons already acquainted with the above details have expressed their acquiescence and readiness to co-operate in its establishment, to give a fair warrant of success.

PHILO-MEDICUS.

London, November 10th, 1848.

Medical Intelligence.

THE CHOLERA AT LEMBERG.

Lemberg, Oct. 31.—The medical report of the progress of Asiatic cholera states, that up to the 24th there took place, in 759 villages, with a population of 1,034,437 inhabitants, 53,963 cases of cholera; of these, 30,537 recovered, 17,289 died, and 3,119 remained under treatment. Since the first appearance of the Asiatic cholera in this province, including 1,032 towns and villages, with a population of 1,333,316 inhabitants, 69,737 persons were seized; of these, 40,715 recovered, 25,903 died, and 3,119 remained under treatment.—*Wiener Zeitung*, Nov. 14.

APPOINTMENT OF SANITARY OFFICERS AT CHELTENHAM.

At a Meeting of the Guardians of the town of Cheltenham, on Thursday, Nov. 16th, it was unanimously agreed, on the recommendation of the Sanitary Committee, to appoint Wm. Philpot Brookes, Esq., M.D., and Fredk. Hyett, Esq., Medical Inspectors of Nuisances for the town, and to fully carry out the Bill for the Removal of Nuisances in the town of Cheltenham.

ANOTHER NOTIFICATION OF THE GENERAL BOARD OF HEALTH.

THE General Board of Health has just published a third notice containing regulations for the treatment of cholera cases. These are chiefly a repetition of the regulations already published, with respect to medical aid being provided by the parochial authorities, the erection of hospitals, places of refuge for the friends of those attacked, and the adoption of other precautionary measures; and it is ordered by the Board that "these special orders and regulations shall hereafter take effect without further notification in all places forthwith upon the actual occurrence in cases of cholera." In all cases, however, in which the orders are acted upon, immediate notice of the fact must be sent to the Board of Health, and the medical officers are required to notify from time to time the progress of the epidemic in their respective districts.

NOTTINGHAM GENERAL HOSPITAL.—ELECTION OF RESIDENT SURGEON.

THE sixty-sixth anniversary of this institution was held at Nottingham on the 2nd inst., and was attended by a large number of noblemen and gentlemen, who are enrolled among its supporters. One object of the meeting was to elect a resident surgeon, in the place of Mr. F. Sibson, a gentleman who is well known to the profession by his frequent contributions to our pages, and who has resigned that office after having held it for the long period of thirteen years. There were two candidates for the office, Mr. Joseph White, and Mr. Thomas Park; the former was elected.

It is always a pleasure to us to find that the services of the medical officers of public institutions are fully appreciated by the Governors, and the following extract, from a county paper, will shew that the Governors of the institution have not been backward in acknowledging their obligations to Mr. Sibson:—

In moving a vote of thanks to Mr. Sibson, Mr. Nixon said he felt it necessary that something more than a mere formal vote should be given on this occasion. They had never had a more efficient officer in that situation than the one they were about to lose. Mr. Sibson's medical talents might be spoken of by persons present more fitly than by himself; he would, however, observe, that Mr. S. had contributed several articles to different periodicals which had been most favourably received by the public, and which had placed him in a very high rank in his profession. One subject in particular had been treated by him in a manner more to the purpose than perhaps by any other person;—he alluded to the use of chloroform, that extraordinary agent, of which Mr. Sibson had been a warm advocate from its first introduction into this country. Mr. S. had taken so much pains to ascertain where the danger in the use of the new agent really lay, and had at the same time so well pointed out the means of avoiding that danger with such perfect accuracy, that it might now be considered to be a harmless application.

F. Hart, Esq. begged leave to second the vote of thanks; and he did so with great satisfaction, because he was convinced that Mr. Sibson's conduct during the whole time,—thirteen years, of his connection with the hospital, had been such as not only to justify them in passing such a resolution, but absolutely to call upon them so to do. The resolution spoke of Mr. Sibson in strong and warm terms, but not more so than his merits had deserved. It very often occurred that persons, in retiring from a situation, met, as a matter of course, with a vote of thanks. He thought it ought not to be taken so on this occasion. He was sure they might take literally everything that was stated in the resolution, to the full import of the words. He had heard the opinions of the physicians and surgeons of this institution, and they were unanimous in their testimony to Mr. Sibson's professional ability. Of this he himself could not further speak: but he could testify to Mr. Sibson's care and unwearied attention in the fulfilment of the duties of his office upon all occasions.

STATEMENT OF FACTS CONCERNING THE PROPOSED ELECTION OF OFFICERS AND COUNCIL OF THE ROYAL SOCIETY FOR THE ENSUING YEAR.

THE Committee formed to promote the election of Professor Thomas Bell to the Secretaryship of the Royal Society, about to be resigned by Dr. Roget, beg leave to submit to the fellows the following statement of facts and observations thereon.

At a meeting of the Committee of Zoology and Animal Physiology of the Royal Society, held July 4, 1848, the following resolution was moved by Professor Owen, seconded by Mr. Gray, and unanimously agreed to:—

"That the Committee taking into consideration the large proportion of papers communicated to the Royal Society on subjects of Anatomy, Physiology, and other branches of Natural History, and the loss which the Society is about to sustain by the retirement of a secretary eminent for his acquaintance with those sciences, beg respectfully to request the attention of the council to the advantage and desirableness of having one of the Secretaries conversant with those branches of knowledge."

"Resolved,—That the Secretary be instructed to communicate the above resolution to the Council."

This resolution of the physiological committee having been duly communicated to the Council, it was proposed in Council by Sir Charles Lyell, and seconded by Mr. Gassiot—"That Mr. Grove be recommended by the Council to the Society for election as Secretary at the next anniversary;" on which an amendment was moved by Mr. Brown, and seconded by Dr Roget—"That Mr. Thomas Bell be recommended as Secretary," which amendment was negatived; the original motion was then put and carried. The effect of this recommendation is to constitute the executive officers of the Society *entirely* of cultivators of physical science, leaving the natural sciences without an officer capable of abstracting an anatomical, physiological, or natural history paper, or of giving an opinion on its merits.

It cannot, therefore, be matter of surprise that such a deliberate and total neglect of the interests and feelings of the anatomists, physiologists, zoologists, and botanists, who form so large and highly important a portion of the Society, should have stimulated a considerable number of the Fellows to endeavour to secure to the natural sciences *one* officer in the executive, capable of superintending the publication of their works, either in abstracts in the Proceedings, or in detail in the Transactions. The Committee consider this the more necessary, as it will be seen that in the new Council as proposed by the present one, there is a most unequal apportionment of the members to the respective sciences which are supposed to be represented in that body;—there being eight members to represent the physical sciences, five geologists, and two chemists; while there is but one for comparative anatomy, one for physiology, and one for zoology, and not one representative of botany. Thus, of the whole Council of twenty-one Members, three only represent the natural sciences.

In the balloting list issued with this circular, Mr. Bell's name is substituted for that of Mr. Grove, as Secretary.

⁂ From what we learn, the election of Mr. Grove is likely to be very warmly contested. It is a struggle of physiological against *physical* force.

DEATH FROM INOCULATION.—MANSLAUGHTER.

Matthew Symes, baker and beer-house-keeper, of Burstock, Dorset, has just been committed to Dorchester gaol to await his trial at the assizes for the offence of manslaughter. Symes had inoculated two of the children of John Hoare, a dairyman, though repeatedly admonished that he was acting illegally in inoculating children, which he appears to have been in the habit of doing. Both the children died, and it was proved on the inquest, by a medical man, that they had died from small-pox, received through inoculation, and not naturally. The coroner, Mr. Cory, called the attention of the jury to the 3d and 4th Victoria, cap. 29, which makes inoculation illegal, and a jury of 18 respectable persons returned a verdict of "manslaughter" against Symes.

UNIVERSITY OF LONDON.

SECOND EXAMINATION FOR THE DEGREE OF BACHELOR OF MEDICINE.—1848.

Examiners:—

Physiology.—Dr. Carpenter, F.R.S.

Surgery.—Sir Stephen L. Hammick, Bart., and Cæsar H. Hawkins, Esq.

Medicine.—Dr. Billing, F.R.S., and Dr. Tweedie, F.R.S.

Midwifery.—Dr. Rigby.

Forensic Medicine.—W. T. Brande, Esq., F.R.S., Dr. Pereira, F.R.S., and Dr. Rigby.

First Division.—Copeman, Arthur Charles, King's College—Drury, James Samuel, adjoinining St. George's Hospital — Evans, John Owen, University College—Gill, Walter Battershell, King's College—Habershon, Samuel Osborne, Guy's Hospital—Hassall, Arthur Hill, Royal College of Surgeons in Ireland—Hooper, Daniel, Guy's Hospital — M'Crea, William, St. George's Hospital—Palmer, Edward, University College — Payne, Arthur James, King's College—Savory, William Scovell, St. Bartholomew's Hospital — Shelley, Hubert, Guy's Hospital—Sibson, Francis, University of Edinburgh—Wilks, Samuel, Guy's Hospital—Woodforde, Wm. Thos. Garrett, University College.

Second Division. — Jago, Frederick William Pearce, London Hospital—Lang, Henry, University College—Pyper, Robert Deverell, Middlesex Hospital — Ryan, William, Middlesex and Jervis Street Hospital—Sankey, William Henry Octavius, St. Bartholomew's Hospital.

APOTHECARIES' HALL.

Names of Gentlemen who passed their examination in the science and practice of medicine, and received certificates to practise, on Thursday, 16th November, 1848:—Thomas Dale, Liverpool—George John Hinnell, Bury St. Edmunds—William Sedgwick—Edward Francis Fussell, Warminster, Wilts—William Britton Pearce, Mevagissey, Cornwall—Edward Austen Steddy, Chatham—Abel Crompton, Crompton, near Oldham, Lancashire.

OBITUARY MEMOIR OF THE LATE THOMAS CALLAWAY, ESQ.

We regret to have to announce the death of this excellent surgeon, which took place at Brighton, on Friday, November 17th, after a few weeks' illness, induced by exposure to rain, while on horseback. Mr. Callaway was born in 1791, and was, therefore, in the 58th year of his age. He was the son of Isaac and Alisia Callaway, both of whom died in his early infancy. He was brought up and educated by his grandfather, who at that time filled the office of steward to Guy's Hospital; and thus from his earliest years he acquired a taste for the science of surgery, which he afterwards so successfully practised.

In 1809, he was apprenticed to the late Sir A. P. Cooper, Bart., and with others of Sir Astley's apprentices, went to Brussels in 1815, to see and assist the wounded after the battle of Waterloo. In 1825, he was appointed assistant-surgeon to Guy's Hospital, which office he resigned about twelve months since. In 1838, he was elected a Member of the Council of the Royal College of Surgeons of England, in the affairs of which he took great interest; and up to the time of his death both acted and voted with true liberality. In 1841, he delivered the annual oration in memory of John Hunter, before the members of the college. He was surgeon to the Philanthropic Society, to the Deaf and Dumb Asylum, to the Hospital for Idiots, to the Asylum Life Assurance Office, and to the London Assurance Corporation, Honorary Member of the Hunterian Society, &c., &c.

Mr. Callaway was twice married, and he has left a widow and four children, the eldest, a son, who is now demonstrator of anatomy in the medical school of Guy's Hospital; and the youngest, also a son, who is but seven years of age. Both of his daughters are married. His loss will be deeply felt, not merely by his sorrowing family, his personal and professional friends, and his numerous patients, but especially by the poor, to whose wants and necessities he most liberally administered. In countenance open; in manner frank; in conversation engaging, he peculiarly possessed the power of securing the confidence of those who consulted him. He has died lamented, and deplored by all who enjoyed the pleasure of his acquaintance, and he has left behind him a remembrance of excellent private and professional worth, which will never be lost to those who knew him.

OBITUARY MEMOIR OF THE LATE DR. WILLIAM TWINING.

Died, on the 15th instant, at 13, Bedford Place, Russell Square, William Twining, M.D., in the 36th year of his age. This young and promising physician is another to be added to the list of those who have fallen victims to their thirst for the acquisition of knowledge. Dr. Twining received his education at Rugby, under the celebrated Dr. Arnold, and such was his eagerness to attain distinction, that he overtasked his strength, and laid the foundation of that cerebral disease which has thus prematurely cut him off. From Rugby he went to Balliol College, Oxford, and it was his wish, on more than one occasion, to compete for honours, but his strength was unequal to the exertion. His medical studies at St. Bartholomew's were pursued with equal ardour, and even when his feeble health rendered such application improper, he was constantly to be found engaged in the perusal of abstruse works in German, and other languages. He held the appointments of physician to the Farringdon Dispensary, and to the Public Dispensary in Bishop's Court, until compelled by ill health to resign them. Dr. Twining was, in 1841, one of the founders of the North London Infirmary for Diseases of the Eye, and the fervent manner in which he supported that institution to the last, will ever be held in grateful remembrance. In him, the unfortunate cretins of Switzerland have lost a firm and zealous friend. Not only did he by his pen ably advocate the cause of those outcasts, but he contributed most liberally to the admirable institution for their relief, conducted by Dr. Guggenbuhl, on the Abendberg, near Interlachen.[*] Active benevolence was indeed a prominent feature in his character; he was ever as ready to assist the poor with his purse as with his advice, and numerous have been the miserable objects restored to comfort as well as health, through the philanthropy of Dr. Twining. Upright, honourable, and unflinching; amiable in his disposition, and sincere in friendship; of learning, accurate, varied, and extensive, he had drawn around him a large circle of friends, by whom his loss will be long and deeply lamented, but by no one more than by him who pens this tribute to his memory!

OBITUARY.

At Shrewsbury, on the 13th ult., Robert Waring Darwin, Esq., M.D., in his 83rd year.

On the 11th inst., at the Royal Hospital Fields, Dublin, Doctor Renny, late Director-General and Chief of the Army Medical Department in Ireland, in his 92d year.

On the 14th instant, at Glenloin, Dumbartonshire, the residence of his brother-in-law, James Low, Esq., R.N., surgeon of

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[*] Dr. Twining's exertions on behalf of the cretins in Switzerland, and idiots of our own land, have led to the happiest results. Three establishments for the education of the latter have already been formed—namely, at Highgate, Bath, and Wells.

Her Majesty's ship San Josef, the flag-ship at Plymouth.

On the 18th inst., at Shadwell, David Burn, surgeon, of fever, after 8 days' illness, induced by the performance of his arduous and dangerous duties as officer under the "Nuisances Removal and Diseases Prevention Act, 1848," which appointment he had received but a very short time previously, from the board of guardians of the Stepney union.

Selections from Journals.

ON THE GENERAL CAUSES OF ASIATIC CHOLERA. BY M. FOURCAULT.

M. Fourcault (in *L'Union Médicale*, Oct. 10th) finds a sufficient explanation of the spread of Asiatic Cholera in the geological conditions of the places in which it has manifested itself. He traces its course along alluvial deposits; finds it rarely or never visiting mountainous districts or regions of primitive rocks; sees it in its greatest virulence in deltas of rivers where the salt water of the sea and the fresh water of the rivers mingle themselves, and where their united exhalations escape. His positions are supported by reference to the progress of cholera in France, and its relation to other epidemics in India. The conclusion which is drawn is, that it is non-contagious.

We may observe, that it is on alluvial deposits, as on the banks and at the mouths of rivers, that man necessarily congregates and forms communities; that on granitic mountains, or in volcanic districts, there are few, if any, populous towns; that on deltas of rivers are to be found the collections of people and the unhealthy decomposition of animal and vegetable matter; but, at the same time, it must be borne in mind that in *the* delta where other infectious diseases seem to culminate—the delta of the Niger—malignant cholera is not one of the diseases commonly met with. If geological conditions be enough to account for the spread of cholera, the connection between the arrival of several ships in London from Hamburgh, and its simultaneous appearance in the several points of contact of of these ships on our eastern coast, yet remains to be accounted for. We do not quite accord with the animalcular theory of the "brave geometre," in *L'Union Médicale* of Oct. 26th, that it suffices to explain this apparent importation of the disease; neither have we any sanguine hope that the gunpowder expenditure recommended for the destruction of the animalcules will succeed in arresting its progress in any country. If so, no more cholera ought to have been heard of after Nov. 5th, when fireworks were in abundance enough, and to spare. But was the "brave geometre" in earnest? or was the article copied from the *Charivari?*

X

BENEFICIAL EFFECTS OF COFFEE IN INFANTILE CHOLERA.

Dr. Pickford states, that from the great importance which now attaches to the treatment of cholera, he feels it to be incumbent upon him to impart to others the experience which recent opportunities have afforded him of the effects of *coffee* in the cholera of infants.

In the case of an infant at the breast, to which he was called late, to whom the usual remedies had been administered unavailingly for four days, the exhibition of coffee was attended with complete success. The incessant vomiting and purging had produced extreme emaciation; the abdomen was distended; the pulse was frequent and small; there was great restlessness, and sleeping with the eyes half opened; convulsive motions of the eyes when awake. Carbonate of ammonia, with nourishing diet, and external stimulants, having been fruitlessly exhibited, Dr. Pickford determined to have recourse to coffee, which he knew to have been recommended as a stimulating tonic, by Dr. Dewees. He began with a small dose, a scruple, infused in two ounces of water, with one ounce of syrup, giving a large spoonful every hour. The effect was surprising; the vomiting was arrested; the evacuations became more consistent, improved in colour, and less frequent. The amendment progressed so rapidly, that by the tenth day the child was discharged as cured.

The effects were equally good in a little girl, fourteen weeks old, in whom the vomiting was not so severe, but the diarrhoea was quite as copious. In this case also the coffee was given, after other means had been tried, and the patient greatly reduced.

Dr. Pickford has since used this remedy in nine children of different ages, from four weeks to two years and a half. The doses have varied from half a scruple to two scruples daily. He has also administered it to children labouring under premonitory symptoms, especially where the evacuations have been very light-coloured. In some cases a single dose of calomel has preceded its employment. The effect was always favourable, except in one case to which he was called too late, when the child was already sinking.

He has not had any occasion to try the value of coffee in the diarrhoea of adults, having found calomel and opium of sufficient efficacy.

The benefit of coffee, especially in bilious diarrhoea, has been extolled by Lauzow and Chultze (Richter's Arzneimittellehre, vol.1), West, in 1813, found a combination of coffee and opium very useful in the epidemic of that year. Coffee has long been employed by the common people as a remedy (in Germany, we suppose), after excessive indulgence in spirit drinking. It is known to have the property of promoting digestion, and the action of the bowels.

The purgative action of burnt coffee is attributed by Dr. Pickford to its tonic exciting properties. Like some other substances, in small doses it is capable of restraining diarrhœa, while in large doses it acts as a cathartic. The physiological explanation of this opposite effect of the same remedy is probably to be found in the condition of the motor nerves, which, being weakened, are by its moderate stimulus restored to their normal state of excitement, and thereby diarrhœa depending on their paralysis is cured. In this way, also, is explained its aperient action in larger doses on adults, by its over-stimulating these nerves, and so promoting increased movement of the intestines.

⁂ This simple domestic remedy is so readily available that its efficacy deserves to be tried, and, if confirmed, made more extensively known. Our own experience of its utility in a case of vomiting and purging which has recently presented itself to us fully bears out the author's encomiums. It is not, however, safe to draw conclusions from a single instance.—*Henle's Zeitschrift*, Vol. vii. Part I. X

UREA IN THE FLUID OF PERSPIRATION.

BY DR. LANDERER.

Dr. Landerer, a professor of chemistry at Athens, states that he has found a notable quantity of urea in the secretion of the skin. By macerating in water a flannel which had been for a long time kept in contact with the skin, he obtained a yellowish liquid, of a saline taste and slightly acid, which, when left at rest for some days, deposited a granular mass of phosphates. The supernatant liquid, when treated with alcohol and left to spontaneous evaporation, formed a substance possessing a strong odour of perspiration, and a saccharine taste. When dissolved in water and decomposed by oxalic acid, this substance furnished, in thirty-six hours, a precipitate of minute crystals of oxalate of urea. In further proof of the existence of urea, Dr. L. redissolved the crystals, decomposed them by carbonate of lime, and added alcohol: then, after evaporation, he added a few drops of nitric acid, and by this means obtained silky crystals of a slightly acid taste, and decrepitating by heat.—*L'Union Médicale*, 1848. Δ

ON THE TREATMENT OF BED-SORES.

BY DR. BERNARD.

The constitutional treatment is of the first importance in these cases: indeed, any local application to the sores will prove of little use, unless we support the strength and give tone to the nervous system. In order to understand what constitutional treatment will best suit our patient, let us inquire into the general symptoms of such cases. We find them almost invariably in a state of exhaustion and extreme emaciation, the powers of life having sunk almost to the lowest ebb; the pulse quick and weak; the tongue furred or morbidly clean; the skin rough and dry; the nights are passed in a sleepless state, from the pain and irritation of the sores; every motion of the patient is accompanied by the most excruciating torture; in fact, it is difficult to depict the misery which an individual suffers who is subjected to so great a misfortune. During this period the appetite is often voracious; but, strange to say, the food taken seems to impart little strength to the attenuated body.

In our treatment, therefore, we must not forget the irritative fever which exists, and the loss of nervous energy which attends this affection, to allay the one and restore the other. I look upon the exhibition of powerful sedatives as a *sine quâ non* in the treatment. Dr. Graves, in his observations on this subject (published in the thirteenth lecture of his System of Clinical Medicine), recommends anodynes at bed-time. The pain and nervous irritation is, however, so great in many cases, more particularly during the second stage of these sores, that the greatest benefit will be derived from their exhibition at intervals during the day as well as at night. For this purpose I have been in the habit of prescribing with the greatest benefit, one or two grains of the muriate or acetate of morphia, combined with Murray's fluid camphor at bed-time, and smaller doses during the day, whenever the pain would urgently demand its exhibition. Sulphate of quinine, or some other preparation of bark, ought also to be administered. When constipation exists, enemata, with lukewarm water, will prove to be the best aperient, as our object is to husband as much as possible the strength of the individual. A light and nutritious diet is best suited to such cases. Brandy or wine should also be given at intervals during the day, and in quantity according to the necessity of the case.

When the sores have made some progress towards healing, change of air may be ordered; gentle exercise in the open air (if at all practicable) will be also attended with the happiest results. An hydrostatic chair might easily be constructed of the same shape and construction as the Bath chairs in ordinary use. It is only necessary that the seat and back of the chair should be rendered waterproof. This can be accomplished by lining it with Mackintosh cloth, and filling the cavity with water after the manner of the hydrostatic bed of Arnott; whilst daily exercise in this chair will tend greatly to strengthen the constitution, and add to our patient's comfort and enjoyment: it cannot in any way protract the healing of the sores. —*Dublin Medical Press*, 1848.

BOOKS & PERIODICALS RECEIVED
DURING THE WEEK.

(The List will be given in our next No.)

BIRTHS & DEATHS IN THE METROPOLIS

During the Week ending Saturday, Nov. 18.

BIRTHS.	DEATHS.	*Av. of 5 Aut.*
Males.... 658	Males.... 611	Males.... 581
Females.. 633	Females.. 577	Females.. 573
1291	1188	1154

CAUSES OF DEATH.		*Av. of 5 Aut.*
ALL CAUSES	1188	1154
SPECIFIED CAUSES	1185	1149
1. *Zymotic* (or Epidemic, Endemic, Contagious) *Diseases*	386	270
Sporadic Diseases, viz.—		
2. Dropsy, Cancer, &c. of uncertain seat	49	59
3. Brain, Spinal Marrow, Nerves, and Senses	123	127
4. Lungs, and other Organs of Respiration	185	222
5. Heart and Bloodvessels	30	38
6. Stomach, Liver, and other Organs of Digestion	73	67
7. Diseases of the Kidneys, &c.	15	12
8. Childbirth, Diseases of the Uterus, &c.	8	14
9. Rheumatism, Diseases of the Bones, Joints, &c.	9	8
10. Skin, Cellular Tissue, &c.	2	2
11. Old Age	49	64
12. Violence, Privation, Cold, and Intemperance	36	32

The following is a selection of the numbers of Deaths from the most important special causes:

Small-pox	28	Paralysis	35
Measles	19	Convulsions	25
Scarlatina	119	Bronchitis	69
Hooping-cough	26	Pneumonia	85
Diarrhœa	26	Phthisis	110
Cholera	54	Dis. of Lungs, &c.	6
Typhus	70	Teething	9
Dropsy	12	Dis. of Stomach, &c.	6
Sudden deaths	16	,, Liver, &c.	19
Hydrocephalus	27	Childbirth	6
Apoplexy	18	Dis. of Uterus, &c.	2

REMARKS.—The total number of deaths was 34 above the weekly autumnal average.

METEOROLOGICAL SUMMARY.

Mean Height of the Barometer .... 30·09
,, ,, ,, Thermometer[a] ...... 43·1
Self-registering do.[b] .... Max. 58·8 Min. 23·5
,, in the Thames Water ,, 0· ,, 39·

[a] From 12 observations daily. [b] Sun.

RAIN, in inches, 0·08.—Sum of the daily observations taken at 9 o'clock.

Meteorological.—The mean temperature of the week was about the mean of the month.

NOTICES TO CORRESPONDENTS.

The Report from the Medical Protection Office has been received, and will have early consideration.

A correspondent informs us that the Globe and the Standard Insurance Offices are to be added to those which pay fees for medical services rendered to them. We will on some future occasion publish a complete list.

The letter and enclosure on the Law of Lunacy shall receive our attention.

Mr. J. Roberton.—The paper will be inserted, and a proof sent before insertion.

The lecture of Mr. Bowman is postponed until the next number.

The communications of Mr. James—Dr. Snow—Mr. Christopher—Dr. Arnott—and Mr. Balman, next week.

We are obliged to Mr. Angus for his note and for the correction.

Dr. W. Reid.—An answer will be sent.

THE GENERAL INDEX.

We have to announce to our Subscribers that a GENERAL INDEX to the *first* 40 *Volumes* of the LONDON MEDICAL GAZETTE will, it is calculated, form a large Volume of about 700 pages. The cost of the INDEX VOLUME, respecting which many inquiries have been made, will be Twenty-four Shillings; and it is proposed to commence it so soon as the Names of *Five Hundred Subscribers* have been obtained.—The printers, Messrs. WILSON AND OGILVY, 57, Skinner Street, will receive the Names of Subscribers.

Lectures.

LECTURES ON PRETERNATURAL AND COMPLEX PARTURITION.

By Edward W. Murphy, A.M. M.D.
Professor of Midwifery, University College, London.

Lecture V.

GENERAL VIEW OF HÆMORRHAGES.—(Continued).

Vital causes—Nervous influence—Effects of excitement and depression of the nervous system on the contractility of the uterus—Natural agents and therapeutic remedies for the arrest of hæmorrhage illustrate the principles laid down—viz. syncope, coagulation — Depletion —cold —astringents — styptics — stimulants— opium—ergot of rye—electricity—direct irritation of the uterus—compression of the aorta and cava—transfusion.

Special floodings before delivery divided into accidental and unavoidable—Accidental hæmorrhage before birth—Causes —Symptoms—Treatment.

Gentlemen,—We have explained to you the means provided by Nature to prevent hæmorrhages from the uterus: they present another illustration of mechanical contrivance equally interesting as that observed in natural labour; but, beautiful as is the adaptation of mechanical principles to the purpose they are designed to accomplish, I cannot permit you to look on the uterus as being in this respect a piece of mere mechanism. The womb is a vital machine, and all this ingenuity of contrivance is subordinate to, and governed by, the vital principle that regulates its movements: unless we observe the influence of this power, and understand the importance of preserving its integrity, we shall fail in comprehending in their full extent the principles on which the correct treatment of uterine hæmorrhage is founded. We have now to examine the uterus as a living organ, and to consider the influence of the nervous system in aiding or preventing the efficiency of that mechanism to which we have alluded. Such is the direct relation between nervous influence and muscular contraction, that a deficiency of one necessarily leads to an imperfection or absence of the other; and consequently, if nervous power be weak, the uterus will not sufficiently contract, and hæmorrhage must be the result.

The connection also between the nervous and circulating systems is, if possible, still more intimate. The blush that suffuses the cheek, —the syncope resulting from the shock of unexpected intelligence,—are so many evidences to prove the influence of the nervous system over the circulation. Shame will cause a blush: shame will also excite uterine hæmorrhage. A remarkable example of the certainty of this fact has been recorded by my friend, Mr. Forbes, with whose permission I relate it:—

A patient of his was taken in labour, August 28th, 1845, and delivered on the 29th, after seventeen hours' labour, of a living male child. The placenta separated without hæmorrhage, and everything went on well until Sept. 8th, ten days after delivery. At that period the uterus was reduced to its usual size: the woman had been sitting up for two days, without any inconvenience or alteration in the lochial discharge. On the morning of the 8th a most violent flooding took place, accompanied by extreme exhaustion: the patient was recovered with the utmost difficulty from it. A difficulty quite as great was to ascertain the cause of the flooding—so violent, and occurring so long after delivery. It was revealed by mere accident. It appeared that early on the same morning a former lover made his appearance at this most inappropriate time: the surprise of both can be conceived; but the effect of the violent mental shock on this patient was the hæmorrhage that followed.

This case, I trust, sufficiently proves the influence of the nervous system over the uterine circulation. Other evidence might easily be quoted to prove the activity of the uterine nerves; and whether this energy be in a direct or an inverse ratio to their size (a question I leave to physiologists), I have not the least doubt of its existence, nor of the necessity that it be preserved. This influence is perfectly reciprocal: we find that one of the first effects produced by flooding is a diminution of nervous power, and consequently a tendency in the uterus to relax. Another is increased excitement both in the nervous and circulating systems: the patient is more watchful and restless, the action of the heart more hurried, and the circulation again directed towards the cavity of the uterus. Hæmorrhage is therefore increased; but you must not attribute this effect solely to relaxation of the uterus. Here, as elsewhere, there is a *molimen hæmorrhagicum;* congestion takes place, and (as it appears to me) the uterine arteries pour out quite as much blood as is returned from the veins.

A third, and the most fatal, effect of hæmorrhage is a total loss of nervous power, by which the uterus is completely relaxed, flooding is uncontrolled, and convulsions, the precursor of death, give a fatal evidence of the shock to the nervous centres. If you observe the symptoms that accompany uterine hæmorrhage, you can easily trace them to this cause, and will find that they indicate these changes in nervous power. Take, for instance, a case of post-partum hæmorrhage: flooding may commence with only a slight draining from the uterus, or perhaps coagula may form in its cavity; no impression is as yet made on the nerves; presently the uterus loses its firmness, and feels spongy, or rather like dough; the bleeding increases. In consequence of this partial relaxation, the nervous system is excited; the pulse becomes rapid, and assumes the hæmorrhagic character; the patient grows restless, sighs frequently, or yawns, and is anxious for air, and then often comes the frightful deluge that places her at once in the grasp of death. A prolonged syncope is succeeded by increased restlessness, amounting to jactitation; respiration becomes extremely laboured; retching, blowing of the cheeks, and convulsions of all the voluntary muscles, with atony of the uterus, prove the complete loss of nervous power, and close the scene.

In all this train of symptoms the gradually increasing excitement and subsequent depression of the nervous system may be observed; and hence the necessity of strict attention to remedy this condition in any plan of treatment that is adopted.

From these general observations you will perceive that, in the mode of arrest, uterine hæmorrhage differs essentially from hæmorrhages in other parts of the body. In the latter case, as we have shewn, the exposed vessels have inherent provisions for retarding the escape of blood. Those of the uterus depend altogether upon its contractile tissue; and hence, as in general hæmorrhages one of the great objects of treatment is to cause contraction in the coats of the vessels themselves, so in flooding from the uterus the chief effort is to excite and to maintain the contractility of the uterine fibres. In consequence of this intimate connection between the vessels of the uterus and its muscular fibres—the absolute dependence of the former on the latter—it is essential in the treatment of floodings to pay much more attention to causes that impair muscular contractility, than is required in the treatment of other hæmorrhages. The nervous energy of the uterus must be preserved; and for this purpose a line of treatment is called for that would be quite inapplicable in general hæmorrhage.

In order to illustrate this principle, we shall direct your attention to the different agents and therapeutic remedies employed for the purpose of arresting hæmorrhage—first pointing out those that are applicable to general hæmorrhages, and then we shall contrast them with such as control floodings from the uterus.

Syncope is a natural provision to relieve a bleeding vessel from the momentum of blood impelled into it by the heart: it is therefore a very efficient means, in general hæmorrhage, of promoting coagulation of blood, of causing contraction in the coats of the vessel, and, therefore, of arresting the discharge; but in floodings, syncope is frequently a dangerous symptom; fainting is much more prolonged in the latter than in the former instance, and sometimes the patient never recovers from it. Syncope will not cause the uterus to contract; and the only useful effect it can produce in uterine hæmorrhage is, by suspending the heart's action, to give a temporary check to the discharge which returns instantly with the pulse. The danger of syncope in uterine hæmorrhage is its duration; the heart may cease to act altogether: we are therefore often obliged to use stimulants to prevent this, and to restore the circulation.

Coagulation of blood is the chief agent by which, as we have already explained, Nature closes a wounded vessel, and prevents effusion of blood: its efficiency in lacerated arteries is frequently evident; but in floodings, coagula have no such effect: they are washed away with the torrent of blood that gushes from the womb when it loses its contractile power—nay, they may increase hæmorrhage, and convert a slight draining into serious flooding: for instance, a small coagulum may form in the cavity of the uterus, which gradually increases; the uterus becomes irritated by the distension of its parietes, and renews its action: its contraction is followed by relaxation of the uterine fibres, and an increase of the discharge; the uterus still further expands, until at length its cavity is filled by an enormous mass of coagulated blood, attended with the most aggravated symptoms of exhaustion in the patient. The beneficial effects of coagula are observed when they are subordinate to uterine contraction: they then close the venous openings on the surface of the uterus, and prevent the slight regurgitation of blood which may take place: hæmorrhage from the uterine arteries is also prevented by this means. You perceive, therefore, that these natural means for controlling non-uterine hæmorrhage may have the most opposite effect upon flooding. The same contrast may be observed in therapeutic remedies.

Depletion is frequently employed in general hæmorrhage—for instance, in epistaxis—because, by diminishing the impetus of an over-excited circulation, coagulation readily takes place in the open vessels, and their coats can more easily contract. Is such the effect in uterine hæmorrhage? We admit that there are certain cases in which women of a plethoric habit and impetuous circulation require depletion to *prevent* hæmorrhage, and who will even bear the loss of blood in this way after it takes place; but if you reflect on what has been already stated to you, you will perceive that in uterine hæmorrhage, such as usually occurs at the period of delivery, depletion can accomplish no such purpose: on the contrary, it may be highly injurious to the patient, because, when a large demand has been already made by the uterus on the circulation, if it be still further reduced by a loss of this kind, the power of the nervous system will be diminished in the same proportion, and the nervous energy of the uterus may be so impaired that uterine contractility is destroyed. The judicious practitioner, therefore, never employs depletion to arrest flooding from the uterus.

Cold is another agent of great utility in all hæmorrhages; nevertheless, it is necessary to exercise some discretion when employed in flooding from the uterus. In other hæmorrhages the refrigerating effect of cold is serviceable, both because it checks the activity of the local and moderates the force of the general circulation; consequently it aids very much in promoting coagulation and constringing the bleeding vessels. The effect, however, is by no means the same in uterine hæmorrhage: local refrigeration is useful, but if employed generally, and the circulation is lowered by it, the danger of the case may be greatly increased. Judging from some opportunities I have had of witnessing this effect, I look upon general refrigeration with great apprehension; the circulation may never recover itself: but if, on the contrary, its chilling effect be confined to the uterus alone, while the circulation is supported, it becomes very efficient. Cold may be employed, also, on another principle—as a stimulant to the uterus: in this way its beneficial effect is most remarkable. The contractile power of the uterus is often so impaired by severe flooding that it is extremely difficult to excite its action. In such cases, a stream of cold water poured from a height on the uterus will stimulate it to contract; but even when employed in this manner, a strict attention must be given to support the action of the heart. This principle did not escape the attention of the observant Gooch. He mentions* the case of a lady that he attended, in whom, both before and at the time of labour, the force of the circulation was very great: "she was flushed, and had a quick pulse." After delivery she had a most violent flooding; and Gooch remarks that, "After the violence of the hæmorrhage was over, although the abdomen was covered with pounded ice, it returned again and again, slightly in degree, yet sufficiently, in the debilitated state of the patient, to produce alarming occurrences of faintness; the uterus, too, which had become firm and distinct, became so soft it could no longer be felt. . . . . Finding the ice so inefficient I swept it off, and taking a ewer of cold water, I let its contents fall from a height of several feet upon the belly: the effect was instantaneous: the uterus, which the moment before had been so soft and indistinct as not to be felt within the abdomen, became small and hard, the bleeding stopped, and the faintness ceased—a striking proof of this important principle, that cold applied with a shock is a more powerful means of producing contraction of the uterus than a greater degree of cold without the shock." We might also add, that this case is an equally powerful evidence of the importance of uterine contraction in checking hæmorrhage.

Astringents and styptics, which are so useful in hæmorrhage by exhalation, have little power in floodings. The mineral acids, acetate of lead, and such like remedies, are almost useless; neither can caustics be beneficially applied: we shall not therefore dwell upon them, but proceed to the consideration of those medicines and other remedies that are essentially required in uterine hæmorrhage, some of which are quite inapplicable in general hæmorrhages; for instance—

Stimulants are almost indispensable in flooding: they would be most mischievous in general hæmorrhage. Why is it so? It is necessary to call to mind the principle which we have endeavoured to prove, and to impress upon your attention—viz., that flooding can only be efficiently controlled by contraction of the uterine fibres. Assuming the truth of this proposition, it follows that a most essential point of practice must be to maintain the contractility of those fibres: now nothing so much impairs this contractile power as flooding, because the vis nervosa (so to speak) of the uterus becomes exhausted in proportion as the general circulation is reduced, and its relaxation is consequently increased. The quantity of blood impelled by the heart may be only just sufficient to support feebly the vital functions; the attention of the nervous system (to use figurative language) is directed entirely to maintain the efficiency of those functions, and its influence over those which are more distant and secondary, gradually disappears: muscular contractility is, therefore, impaired. In order to correct this condition, it is necessary to stimulate, by artificial means, the action of the heart, in order that it may carry on the circulation; and hence the use of stimulants. With this object in view, it is essential to preserve the temperature of the extremities; in fact, to use every means in your power to make the small quantity of blood circulating through the system answer the purposes required of it.

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* Gooch, op. cit. pp. 338—339.

While efforts are thus made to maintain the general circulation, it is no less necessary to supply the deficient nervous energy of the uterus; hence stimulants must also be used locally to excite uterine contraction, and of these, such as act most directly on the nerves of the uterus are always the most efficient. When cold excites a shock; when the introduction of the hand into the uterus causes irritation of its nerves; when an electric current is passed through the uterus,—in all these cases, contraction of the uterus follows, provided that the action of the heart is maintained. In this use of stimulants, you can observe a material difference in the principles of treatment, between floodings and general hæmorrhages, where it is necessary to moderate the action of the heart, so as to lessen the impetus of the local circulation.

Opium is another remedy of essential value in uterine hæmorrhage, but one whose agency seems to me to be much misunderstood: it is chiefly viewed as a sedative, and its use shunned lest it may prevent contraction of the uterus. The paradox has been proposed, How can opium cause the uterus to contract in hæmorrhages, and to relax in other cases; for instance, when given for this purpose in arm presentations? The same medicine cannot produce opposite effects on the same structure. In this query, the condition of the nervous system, a most essential element, is totally overlooked, and the influence of opium, when nervous irritability is almost exhausted, is compared with its effect when the same power is excited to the greatest degree. It is assumed that the operation of opium must be the same when the uterus has lost all power to contract, and when it is contracted spasmodically. The question therefore might easily be answered, by stating that opium is both a stimulant and a sedative, and that one effect or the other is produced, according to the relation existing between the nervous energy of the uterus, and the dose of the medicine given. If nervous irritability be not impaired, or if it be increased, a very small dose of opium would stimulate; a larger one would exhibit its sedative effects; but if, on the contrary, that irritability is destroyed, and the uterus atonic, the same large dose would only act a stimulant: nor will the sedative property of the medicine be observed until the nervous energy is restored.

The truth of this fact I have frequently observed in cases of extreme flooding. The usual dose (♏xxx.) of tincture of opium, had been repeated again and again, before any effect was observed either on the uterus or on the patient. As soon, however, as the nerves were roused to activity, the uterus began to obey the stimuli employed for its contraction; the pulse to return; the respiration to become more easy; the restlessness of the patient less; and in proportion as nervous influence was established, the sedative effect of the medicine became manifest: thus a sound and tranquil sleep, even for a short time, was the most certain evidence that the contractility of the uterus had returned, and was the most favourable symptom of the patient's safety.

In the use of opium, therefore, strict attention should be paid to the degree of hæmorrhage, and its effect on uterine contractility. When the loss of blood is slight, or at least not sufficient to impair the tone of the uterus, a large dose of opium would be dangerous, lest it might act as a sedative, overcome the influence of the nerves, and cause the uterus to relax. When the loss is great, and followed by exhaustion of the uterus, then the very same quantity of the medicine will produce an opposite effect: it will act as a stimulant, and cause contraction of the uterus.

Ergot of rye is perhaps the most popular remedy in uterine hæmorrhage, because it acts specially on the contractile tissue of the uterus: it is a specific stimulant, and excites contraction of its fibres. Its popularity, however, has led to a very indiscriminate use of the medicine, and although often successful, it just as frequently has failed in its effect. A great deal of this uncertainty is attributable, it is true, to the varying quality of the drug; no medicine is of more doubtful efficacy: but I think that its failure in extreme floodings arises, in many cases, from a misapplication of it. It is given as a specific when it is impossible that any specific effect could be produced. In order to excite the action of this, or of any other medicine, the nervous system should be capable of conveying the necessary impressions; but when this is not the case, secale cornutum cannot stimulate the uterus; nevertheless, if it regain its irritability, or if ergot be given before the uterus has lost its tone, in either case its efficacy is undoubted, and it may be usefully employed. Assuming this explanation as true, ergot of rye may be contrasted with opium. When the nerves of the uterus have lost their natural irritability, and the uterus is in a state of atony, opium is the most efficient excitant to its action, because it then acts upon these nerves as a most powerful stimulant; but when that irritability is restored, or if it be only slightly impaired, it acts as a sedative, and may paralyze the uterus. Ergot of rye, on the contrary, is quite inefficient in nervous exhaustion of the uterus, because, so far from acting as a stimulant, it seems to have a sedative effect (at least upon the heart), while its specific action is obvious the moment that exhaustion is removed. Opium is therefore of the highest value in saving a patient from the consequences of extreme flooding; ergot of rye, in preventing such hæmorrhage from taking place. Both remedies may be used in the same case, but one can never supply the place of the other.

The explanation of the action of these medicines in arresting uterine hæmorrhage that has just been offered, may, like every other medical theory, be controverted; and however much I might be convinced of its truth, I should fear to found any practical rule upon it, did the certainty of the rule depend upon the truth of the doctrine: but the case is reversed,—the theory is founded upon practical observations that I have frequently had the opportunity of making. Cases have occurred in which these remedies, administered in the manner stated, have produced the effects described. I have therefore the less hesitation in offering a theory which, whether true or false, can make no alteration in the rule that it is intended to explain.

Electricity is an agent that had been suggested some years ago by Dr. Ramsbotham, and has been lately introduced by Dr. Radford, as a means of exciting an atonic uterus to contraction, and thus arresting hæmorrhage. The principle upon which electricity acts is quite consistent with the views we have endeavoured to lay before you; there is no stimulant more energetic in exciting muscular contractions than electricity: none has a more powerful influence on a torpid nerve. It is reasonable, therefore, to infer, that no means could better excite a dormant uterus into active contractions. Reasoning in this way, Dr. Radford applied the electric current, first to the bladder in a state of atony, and then to the flaccid uterus, in several cases of hæmorrhage, with complete success. It produced not only tonic contraction, "but it had also the power of energetically exciting alternate contractions when applied at intervals." "The alternate contraction," he says, "excited by the agent is analogous to, and as powerful as, that which is observed in normal labour, and the tonic contraction greater."[*] Mr. Dorrington,[†] Mr. Wilson,[‡] and Mr. Clarke,[§] all quote cases confirming Dr. Radford's experience. Professor Simpson has made a series of eight experiments to determine its value, and found results quite opposite to what he expected. In five cases no effect was produced; in two, the pains were suspended; and in one only were "the pains more frequent in their recurrence." The effect of this agent is therefore still an open question. I shall not trespass upon you with the controversy respecting it, more especially as I think there is a desideratum to be supplied in these experiments. It would have been desirable had they been performed on perfectly parallel cases. Dr. Radford's were cases of exhaustion from extreme hæmorrhage; Dr. Simpson's, cases of ordinary labour, some of them very much protracted. In the former, the uterus had completely lost its tone, but it is not clear that such was the case in the latter. In one of Dr. Simpson's cases the electric current seemed to act as a sedative, because "uterine action entirely disappeared during the twenty-three minutes that the galvanic current continued to be passed. The result was rendered only the more remarkable by the fact that the uterine contractions and pains were regular before the galvanism was applied, and again became regular as soon as the galvanic influence was removed.[*]" It would be incorrect, however, to infer from this the action of electricity when the uterus is in an opposite state, or to deny its power as a stimulant when the uterus has lost all contractility. Dr. Simpson admits that it would be hasty, and logically incorrect, to deduce from the preceding observations, that under no modification, and under no manner of application, does galvanism possess the power of directly exciting or increasing the contractile action of the uterus. He does not object to the principle, but to the means employed, and therefore we have less difficulty in coming to a decision about it.

Direct irritation of the uterus is a most efficient aid in promoting contraction of the uterus. Friction over the surface has constantly been observed to excite contraction of its fibres; but so slight an irritant frequently fails in arresting hæmorrhage, simply because it is only partial in its effects: it does not secure a uniform and equable contraction of the uterus. For this purpose strong compression with one or both hands on the fundus, and irritation not only of the anterior but of the posterior surface of the uterus, is essential to secure the object. It is often necessary to maintain this state by a continuance of very strong pressure afterwards, which we shall have again to refer to. The introduction of the hand into the cavity of the uterus is a practice founded on the same principle. This manipulation causes great irritation—sometimes too great irritation—and, therefore, requires prudence and caution in its adoption. In cases of great exhaustion I have known it followed by convulsions and death, but in other instances it proved the only means (accompanied by external pressure) of causing an uniform and efficient contraction of the uterus. Much depends on the condition of the patient. When it is adopted as a "dernier ressort" to excite a flaccid uterus, the shock of the operation sometimes overcomes the patient, already in the last stage of exhaustion, and she never rallies. Such an application of this means is therefore extremely dangerous; but when the uterus is in a semi-contracted state, possessing a certain degree of contractility, the hand may be introduced with benefit. The uterus, which is often only partially and irregularly contracted, is restored to its proper order of contraction; and when the fundus is supported by external pressure, the hand is expelled, and the hæmorrhage ceases. Dr. Gooch recommended the introduction of the hand for another purpose: he supposed that the placenta might be compressed against the walls of the uterus, and hæmorrhage thus stopped. I confess that I cannot see the advantage of this practice: passing the hand into the cavity of the uterus is no trifling operation; but if you undertake it—if you succeed and reach the placenta—if it be detached—why not take it away?

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[*] Provincial Med. Surg. Journal, Dec. 24, 1844, p. 603.

[†] Provincial Med. Journal, March 11, 1846, p. 105.

[‡] Provincial Med. Journal, April 29, 1846.

[§] Dublin Hospital Gazette, March 1, 1846.

[*] Monthly Journal of Med. Science, July 1846, p. 22.

Compression of the aorta has been proposed by Baudelocque, and highly recommended by M. Chailly, as a means of arresting hæmorrhage. The aorta is compressed just above the bifurcation of the iliac vessels, by the fingers of the hand that is passed down behind the uterus into the space left when it has contracted after the expulsion of the child. The strong recommendation of Chailly leads me to direct your attention particularly to this point of practice: it is very easily carried into effect, and may form a part of the same pressure that is used to secure the uniform contraction of the uterus. We cannot well compress the aorta, without also compressing the cava and bifurcation of the iliac veins, which seems to me of equal, if not of greater importance, because the veins are a great source of flooding, and if we can prevent the regurgitation of blood from these great trunks into the uterine veins, an important means of prevention is accomplished.

Transfusion had been strongly recommended some years ago by Dr. Blundell. The novelty and reasonableness of the suggestion—the experimental skill, and the eloquence of its advocate, soon brought it under the most favourable notice of the profession. The principle of transfusing the blood of a healthy person into the half-empty veins of a dying woman, and thus artificially supplying the quantity of blood necessary to support life, has in it something so reasonable as to require little argument in its favour. Nevertheless, it is a principle by no means easy to act upon: the operation is surrounded with difficulties, and requires great caution, lest anything else than pure blood be infused into the veins. When we consider the risk attending the admission of air into the veins, it is hardly justifiable to attempt it, unless the patient be *in extremis*. On the other hand, Dr. Blundell attributes its failure—and in the majority of cases it has failed—to delay, by which the case was brought into this condition. He says, "I have myself seen two die, whose lives I feel persuaded might have been preserved to society, had transfusion been more promptly begun.* Dr. Ashwell mentions two unsuccessful cases. I have myself witnessed three cases, in which transfusion was performed without any accident: they all died. Dr. Blundell's objection might be offered. It might be said that the operation was performed too late; but I do not believe such an objection is valid. Transfusion is extremely hazardous, and if there was a reasonable chance of saving the patient by other means, we would not venture on the experiment. Its value seems to consist in the supply of blood afforded artificially to the woman sinking from the loss of this vital fluid: it is, therefore, especially applicable to extreme cases, and if of any use, the effect in such instances must be the *experimentum crucis* to determine it. The cases in which I have seen it tried were precisely those in which the operation seemed to be most distinctly indicated—that is, when the bleeding had ceased, but the pulse was flickering, and the symptoms of exhaustion in the patient becoming every minute more and more manifest: a little more blood was wanting to carry on the vital functions, and transfusion seemed to be the only way to supply it. I have only mentioned unsuccessful cases. I am happy to have it in my power to brighten this gloomy picture with one successful case that illustrates these observations. It occurred in the practice of Dr. Waller, who states that he was called in by Mr. Greaves, to a case of profuse flooding, in consequence of partial placenta presentation. "His patient appearing in a desperate condition, Dr. Waller's attendance was requested. I (Dr. W.) found her in a very unpromising state, with a completely blanched countenance, pale and livid lips, cold extremities, laborious respiration, and a pulse scarcely perceptible; the general surface of the body was also cold—in short, every thing indicated approaching dissolution. Stimulants had been freely given, but they failed to excite even a temporary rally. The vagina was filled with coagula, and as the hæmorrhage appeared to have ceased, I did not think it advisable to disturb the clots in attempting delivery. The symptoms of exhaustion increased; stimulants were had recourse to with no better effect; and nothing but transfusion seemed, under these circumstances, to hold out the slighest chance of relief. . . . . The operation was at once commenced. When about five ounces of blood had been introduced, the amendment was evident; the pulse was more perceptible; and the countenance assumed a somewhat better aspect. . . . The rally continued for about two hours and a half, when the female again began to sink, and jactitation supervened; gruel with brandy was given, without any benefit; the pulse was again but just perceptible, and the body getting cold. I again injected about four ounces from the same individual who had previously supplied it, but this time the symptoms did not improve. The stream issuing from the punctured arm was so languid, that it was not thought right to proceed, and a fresh subject was sought to furnish us with a better supply. The husband of the patient being in the room, came forward to our aid; he looked rather pale, and therefore we gave him a glass of hot brandy and water, and then opened a vein, from which blood flowed in an impetuous stream. The first injection of about two ounces produced a marked alteration in the pulse: it became decidedly perceptible. When nine ounces had been injected, the countenance was much improved: there was even a slight appearance of colour in the cheeks, and pain in the arm was complained of. Four ounces more were introduced, when all symptoms of immediate danger vanished. There was no faintness afterwards; the surface was warm; the pulse steady, about 100 in the minute; jactitation ceased; and nourishment was retained on the stomach. . . . . . Dr. Waller left the case in the hands of Mr. Greaves, who informed him that after a sleep of some hours the pains increased, and he felt a portion of the detached placenta in the vagina: this was expelled by the natural efforts. A dead child soon followed, the remainder of the placenta coming away an hour afterwards without hæmorrhage. The mother recovered."* I have detailed this case, because it is so instructive, so encouraging, and so well illustrates the observations we have made.

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* Blundell's Obstetricy by Castle, p. 350.

It now remains for us to consider the *special forms of uterine hæmorrhage.*

Flooding may occur at any time during labour — before or after the birth of the child—before or after the separation of the placenta. They may occur also several days after labour. We shall consider each variety separately,—whether it occur before the birth of the child, between the birth of the child and that of the placenta, or afterwards.

Floodings before the birth of the child present two varieties, depending on the situation of the placenta. This viscus is most commonly applied to some part of the body or fundus uteri, but occasionally it is attached to the cervix and os uteri. You can appreciate the important difference which this mere change of position makes in the character and danger of the hæmorrhage.

In the former case, when labour proceeds, every pain is a temporary check to the discharge; but in the latter, the contracting of the uterus only increases it, by breaking through the attachment of the placenta to the mouth of the uterus. In the one instance, hæmorrhage is only an accidental complication that may or may not arise; in the other, it is the unavoidable effect of the action of the uterus. Hence the late Dr. Rigby, of Norwich, appropriately divided these floodings into accidental and unavoidable—a division simple in itself, and sufficiently expressive of the essential difference between these forms of hæmorrhage—one which has not, I think, since been improved upon.

Accidental hæmorrhage before birth is caused by the partial separation of the placenta from the fundus or body of the uterus. The causes generally stated to produce this detachment, are shocks, violent exertion, as straining, mental emotion, plethora, spasmodic contractions of the uterus, &c. Not one of these causes appears to me sufficient *per se* to separate the placenta from the uterus. The edge of the placenta adheres very firmly to it. When an attempt is made to move the placenta, this margin is the only part not easily detached: there is also evidence to prove that the uterus may receive a very violent shock, and the placenta not be disturbed.* The structure of the placenta is such as to admit of its expansion and contraction without breaking through its connection with the uterus. I question very much, therefore, that any spasmodic contractions could separate it. These causes seem to me to produce their effect in a different way. Each of them must, in a greater or a less degree, disturb the general circulation, and especially in the uterus: the placental circulation cannot, therefore, escape this excitement; the delicate coats of the vessels that pass into the placenta from the uterus are broken through, and blood is effused between both surfaces; this continues to increase, until utimately it forces its way beyond the edge of the placenta, and thus detaches it from the uterus. Such an effect can only be produced when the force of the circulation is greatly increased, and the effusion of blood rapid, so that the edge of the placenta is torn from its detachment by the accumulating weight of the fluid. A less degree of force produces a different effect: the blood may not escape, but be effused and coagulate on the uterine surface of the placenta, thus preventing any further discharge; consequently until the placenta is detached and expelled, it would be impossible to say whether there had been any hæmorrhage. This is not, however, always the case—the most alarming symptoms, and even death, has been the consequence of a hæmorrhage of this kind, when the edge of the placenta did not yield to the weight of the blood effused. Drs. Hardy and M'Clintock refer in their valuable report to two cases of this kind, that had been related to them by Dr. Johnson, late master of the Dublin Lying-in Hospital. "In neither of these cases was there any external hæmorrhage whatever, and the separation of the placenta seemed to have been produced in one by outward violence; but, in the other, it was apparently of spontaneous origin. Both these patients sank under the loss of blood; and upon post-mortem examination nearly the same appearances were found in each—viz. the placenta, except at its extreme margin, was entirely detached from the uterus, and the cavity or interspace between the two contained an enormous quantity of coagulated blood."*

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* Medical Times, vol. xvii. p. 256, January 18, 1848.

* Medico-Chirurgical Transactions, vol. xii.

Small coagula on the uterine surface of the placenta is a common occurrence. The ordinary effect of labour seems to be sufficient to produce these partial effusions. They do not affect the constitution of the patient, or cause any external discharge, therefore they pass unnoticed; but when the circulation is excited, and blood poured out rapidly, there is no time for coagulation; it bursts its way through all restraints, and thus causes accidental hæmorrhage.

Besides these more common causes dependent upon an over-excited circulation, we sometimes meet with others of an opposite character giving rise to hæmorrhage. Some women have a leuco-phlegmatic temperament, may have been the subject of anæmia, have had leucorrhœa, menorrhagia, &c. &c. When they become pregnant, the slightest cause produces hæmorrhage; hence miscarriages are frequent: but if they arrive at the full term of pregnancy, it is seldom without some slight hæmorrhage taking place in its progress; hence, when labour begins, they are hardly able to meet it: the contractions of the uterus are weak, and if hæmorrhage takes place it is less easily controled, because atony of the uterus, and exhaustion of the patient, are so easily induced. In such cases a very slight flooding may be attended with most serious results.

The symptoms that accompany accidental hæmorrhages are seldom uniform. The flooding generally commences as a narrow stream trickling from the vulva, which ceases to flow when the pains are present and returns as it subsides: presently a sudden gush of blood is observed, accompanied with coagula, and then the hæmorrhage may continue to return in gushes, or one violent torrent may place the patient at once in articulo mortis: this last form of accidental hæmorrhage is not so frequent. The constitutional effect of the hæmorrhage is first observable in the pulse and the action of the uterus; the pains are weaker, and the pulse more rapid and jerking, but they are very soon succeeded by the symptoms of nervous irritation and exhaustion. The patient is restless, throws herself about the bed, or makes an effort to rise; vomiting may take place, the respiration is hurried, she calls for air, and feels suffocated, and then, perhaps, she faints; the syncope may be prolonged, and excite the greatest apprehension; she is pulseless, countenance deadly pale, the eyes fixed, or slightly drawn upwards, extremities cold; as she revives she speaks incoherently, respiration is stertorous, jactataition increased, and sometimes she rolls about the bed like a drunken person; the pulse becomes more rapid and jerking, small and extremely compressible. Again she faints, with still more alarming symptoms: the whole surface is cold, the countenance cadaverous, the pulse is not felt, the cheeks blown out with every expiration; convulsions may supervene, and at length, after a few gasps, this last evidence of life ceases.

The treatment must be prompt and decisive. Accidental hæmorrhage usually occurs in the first stage of labour, when the membranes are unbroken, and the liquor amnii prevents the uterus contracting about the body of the child. In order, therefore, to control flooding, the uterus should be made to contract as much as possible, and coagulation promoted in the spongy structure of the placenta: both objects are accomplished by rupturing the membranes, because the uterus contracts on the body of the child, and the placenta being compressed between both, the blood is prevented escaping so freely from its uterine surface. This effect may be rendered more perfect by using means to increase the tonic contraction of the uterus, which rupturing the membranes alone will not always accomplish. Therefore, ergot of rye, or the electric current, may be used; a drachm of the former infused in a wine-glass of water, may be given alone, or, what is better, in combination with opium. Thirty or forty minims of tincture of opium may be added to the infusion, and in proportion as exhaustion increases, larger doses of opium may be repeated. When you wish the aid of the electric current, the electro-magnetic apparatus should be employed, and currents passed either transversely or in the longitudinal axis of the uterus: rods, holding sponges moistened in a saline solution, are connected by wires to the apparatus, and may be applied to any part of the abdomen; a sponge may be introduced within the vagina, and connected in the same manner with the battery: by these means currents may be made to pass in any direction. The only objection to this mode of exciting the uterus is the delay which might arise in preparing the instrument. Entrust the management of these details, therefore, to an assistant, and do not lose a moment in carrying out the treatment of the case, independently of this agent. Your patient's life hangs by a thread, and if your attention be taken off from her, even for an instant, she may relapse into the syncope of death. While you are thus endeavouring to arrest the torrent from the uterus, you must at the same time, if possible, arrest the effects of a languid circulation, and maintain the action of the heart. Stimulants may be given, even largely; I have known a glass of brandy scarcely support the pulse. Brandy, with laudanum, is more decisive in its effect; the temperature of the extremities must be maintained, and as pure air as possible allowed to circulate freely through the apartment. Be careful, also, to avoid changing the position of the patient much; any exertion is extremely injurious to her, and especially recollect the danger of raising her from the recumbent posture. If these means fail, or are tardy in their operation, transfusion will, no doubt, occur to you; let it be tried, and if you do so, use every precaution to avoid failure. Let your assistant prepare the apparatus, having the basin for the blood raised to the temperature of 98. Take the blood from the strongest and healthiest person you can find; let the vein be feely opened, so that the current may be rapid; and to insure this effect, you may adopt Dr. Waller's plan, and give the patient a full draught of brandy and water; but above all things, inject no air into the vein—this is the danger chiefly to be dreaded; some blood should, therefore, be forced through the tube before it is inserted into the vein.

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* On Midwifery and Puerpural Diseases, p. 194, by Drs. Hardy and M'Clintock.

In accidental hæmorrhage there is seldom occasion for these extreme measures; rupturing the membranes, and ergot of rye, are generally sufficient to arrest the discharge. We have explained the principle on which the discharge of the liquor amnii produces this effect, and the practice has been recommended by Mauriceau, Pasos, Denman, Rigby, Merriman, Ramsbotham, Collins, and other eminent practitioners. Its value, however, has been disputed by Leroux, Dewees, and Burns, who advocate the introduction of plugs into the vagina to cause coagulation, and thus check the flooding. With regard to this point of practice, I have no hesitation at all in deciding in favour of rupturing the membranes; I have never found it fail, but the plug employed as a substitute is evidently liable to grave objections: a coagulum in the vagina can have no effect on vessels in the body or fundus of the uterus: are we then to wait until the coagula increase so as to stop these vessels? If so, the placental side of the uterus must be wholly filled with coagula, and even then it is doubtful whether they could prevent the hæmorrhage. You may, therefore, plug the vagina, and fancy the hæmorrhage has ceased because no more flows externally, but the symptoms of exhaustion rapidly accumulating will soon convince you of your error. If the membranes are ruptured, the vagina may then be plugged, as a temporary expedient, because, although some coagula may collect in the uterus, the quantity must be small, and the amount of blood lost would be less than if it flowed uninterruptedly from the vagina; but even on this topic I cannot speak without some hesitation. I confess I like *to see* whatever discharge may flow from the uterus, nor do I feel satisfied so long as there is the least trickling of blood. If the vagina were plugged, I could not tell whether the hæmorrhage had completely ceased, and might be deceived by the absence of all external appearance of hæmorrhage.

Turning the child for accidental hæmorrhage has been practised since the days of Ambrose Paré. All the older practitioners did so, and many of their patients died in consequence; latterly there was more caution in having recourse to it, and now the practice is rather an exception to the general rule. It therefore requires some consideration. I think you will find it very seldom necessary to turn the child; the means already detailed are generally adequate to control flooding, and avert impending danger, without turning, but if it should happen that they are not sufficient for the purpose, the child should be removed. The success or danger of this effort to save the patient rests, in a great degree, on the judgment of the practitioner: if the operation be performed at all, it should be undertaken before the patient is much exhausted. If you do so, and make every provision to support

her while going through it, you will succeed; but if, like many cases reported, you proceed to turn the child because the woman is so exhausted that you fear she will die undelivered, you place her, by the operation, beyond all possible chance of recovery.

VARIABLE SYMPTOMS ATTENDING ANEURISM OF THE AORTA. BY DR. BELLINGHAM.

As an aneurismal sac may spring from any point upon the superior or inferior, the anterior or posterior surface of the arch of the aorta; as its size may vary from that of a walnut to a melon; as the direction which the sac takes may be upward or downward, forward or backward, inwards or outwards; as the tumor in enlarging may make injurious pressure upon the trachea, right or left bronchus, or œsophagus; upon the left carotid, left subclavian, or innominata; upon the descending cava, the pulmonary artery, pulmonary veins, or thoracic duct; as it may stretch or compress the par vagum, the phrenic or recurrent nerves; and as it may cause erosion of the sternum, ribs, or bodies of the vertebræ, we can understand why its symptoms are so different, and why they must necessarily be as various as are the tissues or organs, which are injuriously compressed, stretched, or otherwise injured.

In addition, we cannot be surprised that the symptoms should be much more marked and more distressing in some cases than in others, when we recollect that the progress of the disease is so much more rapid in some subjects than in others, and that the capacity of the chests of patients the subject of this disease varies so materially. For instance, if the patient's chest is narrow and contracted, the characteristic symptoms will set in sooner and have a higher degree of intensity than under opposite circumstances; yet this consideration seems to have been quite overlooked by writers on aneurism of the aorta. It is in fact in subjects whose chest is capacious and largely developed that the disease is likely to exist unsuspected, and to remain undiagnosed for a considerable time; and such, I am convinced, will be found to have been the conditions, in the majority of the cases on record, where the patient died suddenly without any suspicion of aneurism having been entertained. The occupation and habits, too, of the patient, whether he is obliged to earn his bread by manual labour or not, and whether he is temperate or the contrary, will have some influence upon the rapidity or slowness of the progress of the disease.—*Dublin Medical Press.*

LECTURES,

Delivered at the London Ophthalmic Hospital, Moorfields, July 1847.

By William Bowman, F.R.S.

Lecture IV.—*Concluded.*

Of the aqueous chambers—cyst of the iris—aqueous fluid—its source—removal of blood effused, if coagulated or not—if chambers are occupied by serum. Of the retina—vascular and non-vascular coats. Common elements. 1. Gray fibres and their evolution from the optic nerve. 2. Gray vesicular matter. 3. Caudate nucleated vesicles. 4. Agglomerated granules, divided into granular and nummular layers, with intervening pale stratum. Peculiar elements. 5. Rods. 6. Bulbs, in man and animals—of the yellow spot—modification of the layers of the yellow spot—colour where situated.

Having concluded what I had to say on the structure and arrangement of all the parts which bound and form the aqueous chambers of the eye, we may proceed to consider very briefly the shape and contents of these chambers themselves.

Of the aqueous chambers.—The chambers are that cavity in the eye occupied by the aqueous humour, and lying between the cornea in front and the lens with a portion of its suspensory ligament behind, and they are divided from each other by the iris, but communicate through the pupil. The cornea bulging forwards away from the iris, and the lens bulging forwards towards it, or even up to it, cause respectively the large and small size of the anterior and posterior chambers; but, besides this, the circumference of the anterior chamber is much wider than that of the posterior, by reason of the much nearer approach of the ciliary processes than of the pillars of the iris, towards the axis of the humours.

To speak more particularly of the limits of the two chambers, the *anterior* is bounded in front by the posterior epithelium of the cornea coating the posterior elastic lamina of that structure. At the border it is limited by the passage of a part of this lamina to the front of the iris, the epithelium being very imperfectly, or not at all, continued over that part. Behind, it has the anterior surface of the iris, which I believe is not invested with any definite epithelial structure distinguishable from its own peculiar fibrous and nucleated tissue, but is, as it were, bare and exposed to the contact of the aqueous fluid,—so that in cases where we are able to perceive the delicate fibrous cordage of the iris, as if elegantly dissected in the natural and living eye, this cordage is not seen through a film of epithelium; and, in those instances, especially of the darkly-tinted eye, where the interior arrangement of the iridial fibres is unseen, it is simply concealed from view by the quantity of pigmentary particles accumulated both in its interior and on its surface, not more on the latter than in the former, and not on the latter in the nature of an epithelial lamina.

In the fœtal eye, previous to the seventh month, and imperfectly at a later period, the membrana *pupillaris* passes across the pupil, and closes the anterior chamber, then very small. It passes from a circle on the front of the iris, a short way from the true pupil, where the knotted appearance of the fibres is so often visible in the adult eye, and where it sometimes leaves faint traces of its existence throughout life, in the form of minute threads or spurs standing off from the original line of attachment into the aqueous humour.

The *posterior* chamber is bounded in front by the surface of the iris, on which is a layer of epithelium, loaded with dark-brown pigment, and easily separable from the proper tissue of the iris. If we place a fresh human eye in water after having divided it through the middle, it is not uncommon to find this layer of pigmented epithelium rise in the form of a small blister from the surface of the iris, in consequence of the imbibition of the water in which it is placed; and sometimes after death the same thing occurs, from the imbibition of the aqueous humour itself, just as the aqueous humour is generally absorbed into the capsule of the lens, and distends it under the like circumstances.

Cyst of the iris.—I may here mention a very remarkable and interesting, but rare disease of the iris, which appears to me to consist in the morbid formation of transparent fluid between the iris and this posterior layer of epithelium (the *uvea*, as I omitted to say, it is called). This disease is not accompanied by any other, is of slow progress, and appears first as a bulge of a portion of the iris towards the cornea. I imagine that the first formation of the fluid is attended with a swelling of the uvea backwards towards the suspensory ligament and lens; but, as the contact of these resisting parts must very speedily arrest any further advance in that direction, the accumulating fluid next begins to push forward the proper tissue of the iris, which separates it from the anterior chamber. Here it meets with less resistance. The highly extensile fibres of the iris slowly yield, until in the course of months they bulge to a large extent before the fluid, and come into contact with the cornea, and that sometimes so widely as to throw the pupil towards the opposite side, and even to put it out of sight, by becoming rolled in front of it. A case of the disease is given by Dr. Mackenzie (Case 263, Practical Treatise on Diseases of the Eye). If the cyst be punctured in front, the transparent contents are ejaculated with force by the undiminished contractility of the distended iris, and in the course of a few minutes there remains no trace of the pre-existing disease, the iris having in all respects resumed its natural aspect. The cavity, however, is apt to refill more than once. In Dr. Mackenzie's case, it was punctured a second and third time, at intervals of six or eight weeks, and afterwards never returned, vision being perfectly restored. It is evident in this disease, that the muscular tissue of the iris is expanded over the fluid, and, therefore, the characters of the disease give no support to the opinion that the iris is invested in front with a serous membrane (aqueous capsule). If the wall of the vesicle were simply a serous membrane, it would not so immediately contract on being punctured; and besides, during the process of contraction the membrane can be seen gradually assuming the well-known fibrous aspect of the iris. It is also evident that the uvea (which is always dark) is not protruded with the muscular tissue, but separated and thrown posteriorly; for, if it were in front of the fluid of the vesicle, its pigment would be obvious enough in the attenuated tissue, whereas it is not visible there.

But, to return from this digression: the uvea thus bounding the posterior chamber in front, does not line the iris or the posterior chamber after the manner of a serous membrane, reflected from one part of the chamber wall to another, but appears to be a continuation of the epithelium of the choroid, as it may be traced to the iris from the ciliary processes. In the adult it has not usually so regular a form as where it lines the choroid, but in the fœtus it consists of spindle-shaped cells, with central transparent nuclei, and with dark pigment filling up all their other part.

Between the tips of the ciliary processes and the lens, the suspensory ligament of the lens, forming the anterior wall of the canal of Petit, bounds the posterior chamber, and then the front of the capsule of the lens. Neither of these structures is covered by any epithelium, both being in immediate contact with the aqueous fluid.

Aqueous humour: its source.—The aqueous humour itself is little more than water, less than one-fiftieth of its weight being solid matters (chiefly chloride of sodium). Thus, it is very different from the serum of blood, and may be strictly regarded as a secretion, depending for its integrity on a healthy state of the parts which furnish it. What these parts are, it is difficult to define with accuracy, although doubtless they are a portion of the walls of the chambers in which the fluid lies. It seems to me to be certain that portions of both anterior and posterior chamber secrete this fluid, not merely because it is found in both before the removal of the membrana pupillaris, but also from the fact, which we see in practice, that after the complete closure of the pupil by adhesive deposit, both anterior and posterior chamber may retain their aqueous fluid. When the pupillary margin has become adherent to the lens, we very frequently find the contents of the anterior chamber recovering their natural condition. But it may not be so generally known, that in some cases of slow enlargement of the globe, and distension of the anterior portion of the sclerotica, consequent on perforating ulcer of the cornea, and obliteration of the anterior chamber by adhesion of the iris to the corneal cicatrix, the aqueous humours secreted into the posterior chamber in too great abundance, but in a natural state as regards its quality, is the occasion of the enlargement. It appears probable from their structure, that the posterior surface of the cornea, and both surfaces of the iris, with the tips of the ciliary processes, are all concerned in the formation of the aqueous humour, and that the suspensory ligament of the lens, and the anterior capsule, do not share in this function.

Blood effused into the chambers.—It is a wonderful thing to see blood which has been poured into the aqueous chambers by some accidental blow upon the eye, disappear in the course of a few days by solution in the aqueous fluid and absorption. If the organ escapes active or disorganizing inflammation, a week or ten days are often sufficient for the removal of blood which has nearly filled the chambers: but something even then will depend on circumstances. If the blood has coagulated into a firm clot, its absorption is retarded. I had recently a case in which a young man had an injury to the eye late in the evening, but soon after went to bed and slept soundly. When I saw him next morning, I observed that he had been sleeping on his right side, for the blood had formed a clot, occupying about the right two-thirds of the chamber, and bounded by a very sharp but somewhat concave or cupped edge, placed vertically. It was remarkable that the iris (at least the uncovered portion of it) remained freely moveable. When the pupil was contracted by a strong light, he was blind with this eye, but the eclipse of the pupil became only partial when he turned with his back to the window, so as to dilate it in concert with the opposite one, and he could then see. This clot was absorbed in about a fortnight. On the other hand, when the blood is diffused through the aqueous humour, by frequent change of posture, during the period when it might coagulate, it does not form a solid clot, and is more speedily absorbed, sometimes, if in small quantity, in three days.

I imagine that the blood in such cases mixes with, and its red particles swell, and give up their colouring matter to, the aqueous humour as they would to water, and that this is the occasion of their very rapid disappearance; for a most remarkable difference is noticeable between the result in these instances, as compared with those in which blood escapes into the chambers, when they are already occupied by yellow serum, the consequence of pre-existing disease. For here the blood may remain for many months almost entirely unchanged, either in colour or quantity, just as it might do in a bottle of serum, excluded from the action of the air. The serum does not dissolve the red particles nor the coagulated fibrin, how then could we expect these to be absorbed? Nevertheless, a very slow change does go on; some slight differences are constantly taking place between the variable serum of the blood and that occupying the chamber, owing to which a very gradual interchange is wrought between them, and the clot becomes paler. I have watched a small clot during six months, under these circumstances, ere it lost its shape or characteristic hue. Time does not allow me to allude to the changes in the aqueous chambers occasioned by inflammation, many of which are of the most interesting character, and most instructive to the student of pathology.

I propose now to pass from the review of those parts of the eye which lie within the range of the operations usually performed on the globe, and to devote the rest of this lecture to a brief sketch of the structure of the retina, for I should be unwilling to conclude the present short course without some account, however imperfect, of that portion of the eye, which, in a physiological sense, is the most essential of all, and which will be found to be as wonderful and elaborate in structure as it is important in function.

Of the retina.—The retina is that peripheral nervous sheet on which the images of external objects are received. It is continuous with the optic nerve, and is expanded within the globe between the choroid and vitreous humour, as far forwards as the *ora serrata*, the situation of which has been already pointed out. Its surfaces may be styled choroidal or outer, and hyaloid or inner. It has the pinkish gray colour of the surface of the cerebral convolutions,—is very soft and easily torn,—and is arranged in certain layers, the inner of which contain the bloodvessels that impart the pink tint to the whole, while the outer are non-vascular. All the superposed layers of the retina are thicker at the bottom of the eye, around the entrance of the optic nerve, than in front near the ora serrata, and the entire nervous sheet becomes gradually thinner forwards, until it ends abruptly at the line indicated, being there continuous with that granular tissue which lines the ciliary processes of the choroid, and gives origin to the fibrous part of the suspensory ligament of the lens.

Constituents of the retina.—Now, the retina contains in itself all the structural elements which are to be found in other parts of the system, *except nerve-tubules*, which are not present in the human retina, nor in the retina of the higher animals, but only in the optic nerve; and it moreover contains, besides these, other structural elements not elsewhere met with, but peculiar to this part, and which we are therefore led to suspect may be in some way or other subservient to the proper action of the retina as a recipient of the vibratory impressions of light.

The *elements common to the retina with other portions of the nervous system* are placed internally, or towards the hyaloid surface. These are:—1. *Gray fibres*, radiating on all sides from the entrance of the optic nerve, towards the anterior border of the retina, and being a continuation of the nerve-tubules of the optic nerve. They are gradually less abundant forwards, terminating in succession among the next mentioned elements. 2. *Gray nervous matter, similar to the cineritious part of the cerebral convolutions* (being an amorphous finely granular matrix, containing nucleated nerve-vesicles). 3. *Caudate nucleated globules*, analogous to those found in the ganglia, spinal cord, and certain parts of the brain. 4. *Agglomerated granules*, usually highly refractive, with very little intervening material, and allied to the nuclei of cells, such as are met with in some portions of the encephalon. Capillary bloodvessels are distributed among all but the last of these.

The *elements peculiar to the retina* are situated externally, and together form the coat commonly known as Jacob's membrane. They are of two kinds—5. *Columnar particles, or rods*, arranged vertically in a single series; and 6. *Bulbous particles*, interspersed at regular intervals among the former. Both of these are found among the lower animals in many most remarkable modifications, some few of which I shall presently mention, on account of their singularity, and to shew that they probably play an important part in the physiology of vision, though into the nature of their functions we have as yet no particular insight. These elements, like the agglomerated granules, have no bloodvessels proper to them.

Of the gray fibres of the retina.—We may now pass these several elements in review distinctly in review, and first, of the gray fibres. If we make a section of the coats of the eyeball through the part at which the optic nerve traverses them to join the retina, we see that this nerve becomes reduced in bulk as it is passing through the sclerotica, so that a transverse section of it, where it approaches the sclerotica, has nearly double the area of its intra-sclerotic termination, and the sclerotic canal is a truncated cone. We also observe that whereas the nerve behind, and for a little way within, the sclerotic canal, is opaque white, the tubules having their proper investment of white substance, it becomes gray and semi-transparent ere it touches the retina, and the retina itself has never any white glistening aspect such as the nerves have. In different animals, indeed, even among the mammalia, you will find great variety as to the precise point at which the nerve loses its whiteness, this point being sometimes only at the very junction of the nerve with the nervous expansion within; and in certain cases (of which the rabbit is the best example) the nerve advances a certain way within the choroid, and spreads out on the surface of the retina before it loses its whiteness, so that the retina in these animals appears to present a white area of an oval shape, and an eighth of an inch long, at the sclerotic aperture, and in some animals yet lower in the scale, nerve-tubes, with a very delicate layer of white substance, can be traced even further, and more uniformly distributed over the retina. But still it remains true, as I believe, for all, and certainly for man, that nerve-tubules, such as form the optic nerve, do not exist as a part of the retina, and where they enter within the sclerotica they are to be regarded as still the optic nerve in its course to the retina.

Now, what is the nature of the change in the constituents of the optic nerve by which they lose their whiteness as they penetrate the sclerotica? They certainly do not terminate in the sclerotic canal; they cease to be characterized by their dark outline, and by their tendency to fall into the varicose or beaded state, but remain fibrous: in a word, they lose their white substance, but retain their axis or central fibre, and these fibrous parts coming together, advance and form the gray fibres of the retina. I have made many very thin sections through the nerve and retina in connection; and you will find, if you do the same, that these fibres, on entering the globe and encountering the hyaloid, pour themselves as it were on all sides in bundles over the hyaloid surface of the retina, and become coated at once, on their opposite or choroidal surface, with the elementary structures which I have enumerated as forming the other strata of the retina.

Fig. 13.

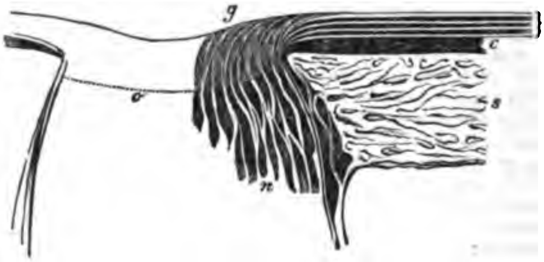

Fig. 13.—Section of the coats of the human eye at the entrance of the optic nerve, to shew the mode of origin of the layers of the retina. *s*, Sclerotica; *c*, choroid; *n*, plexiform bundles of optic nerve; *o*, line at which these lose their white substance; *g*, grey fibres advancing to the retina, and becoming clothed on their choroidal surface with other layers, constituting *r*, the retina.

It follows, of course, that in the space occupied by the evolution of these grey fibres from the optic nerve, *i. e.* for the area of the inner orifice of the optic foramen or sclerotic canal, these strata of the retina do not exist—that *the retina*, in fact, does not exist; therefore it is no wonder that this spot should be blind—insusceptible of stimulation by light. The blindness of the spot (proved by a well-known experiment), in connection with the anatomical fact which I now point out, shows how essential to the visual power of the retina are its non-fibrous parts, so that we might almost say that the visual impression is received by the non-fibrous parts, and merely propagated by the fibrous: that the true retina is not an expansion of the optic nerve, but a nervous organ of independent structure, brought into co-operation with the brain through the nerve. But to proceed with the anatomy of the grey fibrous stratum.

In some animals (I allude particularly to some fishes) their radiation over the whole retina may be very easily made evident to any one by a slight maceration, for the retina shaken in water becomes divested of all but these fibres, and they seem to form a brush directly continuous with the nerve.

But in the higher animals it is usually more difficult to demonstrate such a disposition; both because this layer is much less readily detached from the rest, and because its fibres are disposed in bundles which, after anastomosing together for some way, become blended with each other into a uniform lamina, and are lost among the grey nervous matter (2). In the fresh human retina they may be seen by looking directly on the inner surface, near the optic nerve, with a power of 50 diam.

Fig. 14.

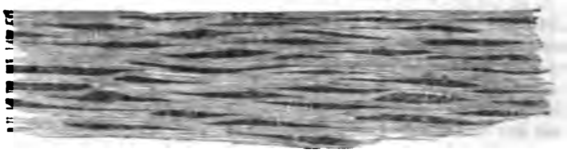

Fig. 14.—Anastomosing grey fibres of human retina, seen on their hyaloid surface, near the optic nerve: magnified.

The bundles there are large, but of different sizes, and anastomose so as to form very elongated meshes, in which large nucleated vesicles soon begin to appear. The bundles of the plexus are not cylindrical, but much compressed on their contiguous sides, so that, on a vertical section, they appear oval; otherwise this plexiform arrangement is a mere continuation of that of the bundles of tubules in the optic nerve, now forming a sheet instead of a cylindrical cord.

Of the central artery and vein.—While speaking of the manner of evolution of the optic nerve at its coalition with the retina, it may be mentioned that the blood-vessels of the retina enter and leave it along the centre of the optic nerve, by two fibrous canals there provided, among the fibrous meshes in which the plexiform nerve bundles lie. Arrived within the sclerotica, they subdivide and ramify upon the retina, the large branches which they form being, for a short way, interposed between the hyaloid and the grey fibres, but very speedily sinking in among these, and breaking up, by successive divisions, into the capillaries which supply and occupy the substance of those layers to which I have already described them to belong.

2. *Of the grey vesicular matter of the retina.*—This lies contiguous to the hyaloid surface, in close relation with the last mentioned layer. It is the most vascular coat of the retina, and, in fact, receives the greater portion of the blood brought by the retinal artery. The capillaries form a very beautiful plexus, with meshes about as close as those of the grey matter of the cerebral convolutions, though arranged nearly on one plane. The walls of the capillaries are a simple membrane, with nuclei at intervals. It is easy, at a suitable period after death, to wash out the nervous matter from their intervals, and to obtain a separate view of the whole vascular system of the retina; and in a perfectly recent specimen, also, the capillaries can be discerned among the matter of the layer now under consideration, often with the red corpuscles still within them. The finely granular matter of this layer is readily seen with a sufficient magnifying power, and also the nuclei which it contains; but it is not so easy to discern the delicate nucleated vesicle, which it so abundantly contains; for, like those of the grey matter of the cerebral convolutions, they are very rapidly destroyed or altered by pressure or water. On some occasions they can be most distinctly seen, especially in one part to which I shall have to refer presently: and it is almost always possible enough to discover their clear globular vesicular nuclei, in a detached state, floating about the fragment examined.

3. *Of the caudate nucleated vesicles.*—It is most interesting to meet with these very singular forms of nervous tissue in the retina, though we at present know little of their use. We have, now, ample proof of their being centres from which, in many parts at least, nerve-tubules pass, the slender processes of the vesicles becoming continuous with the axes of the tubules, and requiring, at a certain distance from their origin, a coating of white substance.

I am not aware that any one else has yet discovered this kind of vesicle in the retina. In man, and the higher animals, it is by no means easily distinguished, for the examples of it are small, and hard to detach from the substance of the last layer, with which they are in connection, and so similar in texture to that substance as not to be visible in it without separation. Nor have they here any pigment, as in so many other parts of the nervous system. That they do exist, however, is certain; for, on different occasions, I have seen many unequivocal examples of them, and especially in two or three specimens of diseased retina, in which the texture was somewhat broken down by a morbid process. Among the mammalia I have seen them in the human subject and in the horse: but I have never witnessed so satisfactory a demonstration of them *in situ* as in the retina of the turtle, where they lie at or near the hyaloid surface, dispersed at pretty equal distances, and with long and branching arms, which spread abroad, indifferently, in all directions, so widely as to approach each other near enough to anastomose together, though I have never seen them actually coalesce.

In making a vertical section of the retina in the higher animals, we very generally find an ill-defined, dark, but broken line, running parallel with the surface, in the substance of the vascular portion; and it has often occurred to me that this may be an indication of the position of a layer of these caudate vesicles intervening between the fibrous and the gray vesicular matter (1 and 2), but this explanation of the appearance requires confirmation.

It would not be difficult to hazard conjectures as to the connections of these caudate vesicles with the fibrous elements, and as to some special purpose they may serve in the economy of the retina; such, for example, as that of bringing into functional relation the several parts which their caudæ may connect, &c., but such conjectures can at present lead to nothing. When we come to know the general history of the caudate corpuscles in the several organs, and in the animal scale, we shall probably obtain some clearer insight into the meaning of their existence in the retina.

4. *Of the agglomerated granules.*—Lying externally to those already described, the agglomerated granules form a very considerable proportion of the entire thickness of the retina, viz. about one-fourth or one-third. They lie in *two layers* (*n* and *g*), between which intervenes a thin layer, *p*, of which I am able to give you no definite account, except that it is more transparent, exhibits no globules, nor any distinct texture, though sometimes looking finely fibrous, and that it apparently contains no blood-vessels. The inner of the two layers (*n*) is always much thinner than the outer, and often consists of but two or three series of granules, which are also different in figure from the others, being flattened, with their surfaces more or less corresponding to those of the retina, and often looking much like pieces of money seen edgeways. From this fanciful resemblance, and for distinction sake, I have sometimes termed this the *nummular layer*. The outer layer (*g*), or *granular layer*, is much thicker: its constituent granules are globular, closely packed, with little sign of any surrounding cells, though a matrix, or inter-granular substance, can be seen on a broken edg

he granules cohere intimately, and when placed in water generally refract the light in a decided manner, quite different from that of the other elements of the retina. They have no blood-vessels.

FIG. 15.

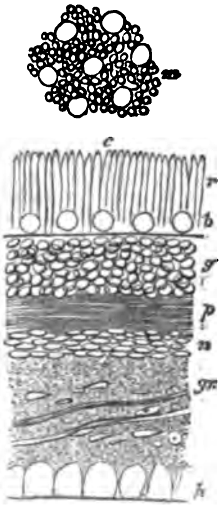

FIG. 15.—Vertical section of human retina (previously dried when quite fresh) half an inch from the *ora serrata*. *r*, Rods detached at the line *c* from the choroidal epithelium; *b*, bulbs; *g*, outer layer of granules; *p*, intermediate more transparent layer, obscurely fibrous; *n*, inner layer of flattened granules (nummular); *gr*, grey nervous layer, fibrous and vesicular, and containing capillary vessel; *h*, hyaloid; *m*, deep or inner surface of Jacob's membrane, shewing rods and bulbs. The appearances in this specimen were beautifully distinct, as represented. (320 diam.)

Of the peculiar elements of the retina.—These constitute that extremely delicate film on the exterior of the retina, first distinguished by Dr. Jacob, and since commonly called by his name. This film is in contact with the choroidal epithelium, and has a very slight organic connection with it, which I shall presently explain. Sometimes this epithelium is partially drawn off the choroid with the retina in consequence of this adhesion; at other times, Jacob's membrane separates with the choroid. It can easily be washed away from the rest of the retina, its adhesion to the layer of agglomerated granules being but slight. Jacob's membrane was at one time generally regarded as a serous membrane, though not by its discoverer himself. By some it has been supposed to belong rather to the choroida epithelium than to the retina; while Hannover styles it *the retina properly so called.*

Much disagreement exists with reference to the precise structure of this singular part, which is attributable in some measure to the great proneness its elements have to change after death, either with or without contact with water or various fluids. On this account, it should be examined as fresh as possible, and with every precaution. The changes it undergoes are, however, very well worth studying in themselves, since they exhibit the peculiar properties of its elements, as tests do those of a chemical compound, and these properties may, I think, elucidate some morbid actions now most obscure. The elements may be distinguished as *rods* and *bulbs*.

Of the rods.—These are placed perpendicularly between the granular layer and the choroidal epithelium, are in close contact with each other, except where the bulbs intervene, and their length determines the thickness of the layer. They are transparent and solid, and either cylinders or six-sided prisms: at the inner end they are attached to the granular layer, and when detached from it terminate by a square extremity; at the opposite end, they run off into a slight cone or pyramidal process, which is received into a corresponding recess in the contiguous particle of the choroidal epithelium, each particle of this pigmentary epithelium thus imbedding the pointed extremities of many of the rods. The shaft of the rod is very apt, a short time after death, to become separated by a sharp transverse line, from the pointed process or leg, and the leg will then gather itself into a ball and disintegrate, while the shaft will bend into a hook at the outer end, or roll into a globule, or split up into transverse plates, or be reduced to a shapeless granular mass. These changes are assisted by immersion in water.

These points in the anatomy of the rods could, with difficulty, have been made out in the human retina, without the indications of structure provided in the corresponding parts of the lower vertebrata, where they are developed to a much greater size. Hannover has given a very admirable description of them in the vertebrate class, in all the great divisions of which they are constantly present; being very large in some fishes, especially the pike, and in batrachian reptiles.

From a careful examination of a perfectly-recent human eye, I ascertained that the rods were longest, and consequently Jacob's membrane thickest, at the hinder part of the globe, and that anteriorly, close to the ora serrata, they gradually shortened by more than a half, still retaining their general characteristics.

Of the bulbs.—These, in the human retina, are very much less numerous than the rods, among which they are scattered at even distances. On looking at the outer surface of Jacob's membrane with a sufficient power, (fig. 15, *m*,) we see an infinite number of minute globules (the ends of the rods), and among these, but at a deeper level, *i. e.* not coming quite up to the outer surface, solitary larger transparent rounded objects, which are the bulbs. When fortunate enough to obtain a view of the whole layer in section, cut or torn across, we see the bulbs sessile upon the layer of agglomerated granules, and distributed, at their proper intervals, among the rods, where these rest upon the granules. They appear to be globular or egg-shaped, and sometimes to have a small blunt spur upon them, turned towards the choroid. When looking down upon the choroidal surface of the retina, the bulbs, when best seen, have a small clear circle within their proper outline, and this seems referable to this projecting part.

Some light is thrown upon the nature of these bulbs by what seems to be a very large development of them in fishes, and here they present themselves in a very remarkable form, and with no less remarkable properties, as Hannover has well pourtrayed.* They are divisible into a body and legs, of about equal length; the body directed inwards—the legs outwards; the body implanted vertically among the rods—the legs tapering in the opposite direction, and imbedded among the pyramidal processes of the rods, and, in a similar manner, within sheaths furnished by the fibrous prolongations of the particles of the choroidal epithelium. The body is thicker than the legs, and has an oval or a circular section. It is also partially subdivided into two lobes: it has a distinct membranous covering, enclosing a colourless, transparent, highly refracting material, which soon changes after death. The legs are also double, one descending from each lobe and tapering to a point; and where they join the body is a transverse line of division, at which they readily break off. When placed in water, the body swells and shortens, assuming the form of a somewhat flattened balloon, which retains the bilobate form, and sometimes looks not unlike a coffee berry. The investing membrane readily gives way; the clear contents become coarsely granular, and may break up into irregular masses, or disintegrate. By the same medium there is occasioned first a transparent line of division between the body and legs, and the legs curl up at the end, or split into many transverse pieces, having a high refracting power.

Hannover supposes that these bodies (which he terms *cones jumeaux*) do not exist in reptiles (except chelonian). I have, however, met with objects which appear very similar to the bulbs of the human retina in the frog. Examining it quite fresh, under albumen, we find the appearances represented in Fig. 16. The bulbs seem nearly as numerous as the rods, among which they lie: they rest upon their proper base, are globular, with a projecting process, ascending towards the choroidal epithelium, and, near the root of this process or leg, contain a minute colourless oil-globule.

FIG. 16.

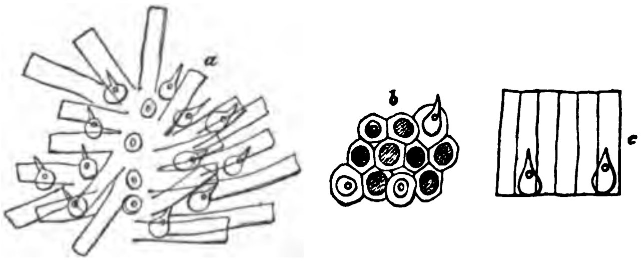

FIG. 16.—*a*, Bulbs and rods of Jacob's membrane in the frog, looking on the outer surface, the choroidal epithelium being removed. The rods are thrown down in various directions, so as to expose the bulbs among them at their base. The bulbs have a spur and pellucid globules. *b*, A similar view, but where the rods are upright, and not displaced; their base, with the bulbs, being brought into focus. The outer ends of the rods are out of focus, and appear dark shades in the centres. *c*, Same in vertical section.

This leads me to a very interesting point in the structure of both rods and bulbs in many animals, viz. the occurrence, in their outer or choroidal ends, of globules resembling oil, either colourless or possessing most brilliant tints of yellow or crimson, In the chelonian reptiles, and in birds, these are the most beautiful. I shall shew you after lecture, the outer aspect of a portion of the retina of the tortoise, in which you will perceive a most elegant array of pale, of yellow, and crimson globules, scattered with regularity over the surface, the first being the smallest, and the last the largest, but all enclosed within the substance of the particles now described. It is not satisfactorily made out what is the precise relation of these globules to the rods and bulbs respectively, partly because the distinction between these elements in these animals is not fully determined; but Hannover considers the crimson globules to belong to the bulbs or *cones*, and all to be properly not globular, but of the nature of sheaths to the particles where inserted into the choroidal epithelium.

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* Recherches microscopiques sur le système nerveux, 1844, pl. iv.

In birds we have even a more beautiful pattern of colours. In the sturgeon, among fishes, I have found the globules large, but colourless. In mammalia they are either very small, or wanting.

Of the yellow spot of the retina, or spot of Soemmerring.—If we cut across a fresh human eye, so as to look at the hyaloid surface of the retina, or if we carefully remove the sclerotic and choroid coats, so as to expose to view its choroidal aspect, we are struck with the rich yellow colour of one small spot about one-twelfth of an inch in diameter, situated at the very bottom of the eye, in the exact axis of the humours, *i. e.* at about one-tenth of an inch from the optic nerve. It exists in some monkeys, and, according to Dr. Knox, in certain reptiles, but in general it is wanting among the lower animals, while it is quite constant in man. The colour shades gradually off, and is deepest when seen from the inside. Very commonly the retina exhibits at this spot a small fold or wrinkle, often two or three folds meeting in the centre, but sometimes none; and I have myself found that the more recent the eye, and the more careful the manipulations employed, the less tendency there has been to the appearance of the fold; while in the instances in which it has been present, it has been always possible to obliterate it by delicate traction in the requisite direction. I am therefore disposed to regard this fold as a false appearance. All who are accustomed to dissect this organ are aware with how much facility any part of the retina is thrown into folds by slight violence done to the vitreous humour in exposing the inside of the eye, owing principally to the extremely feeble union existing between the retina and the choroidal epithelium. We have already seen, too, how readily the elements of Jacob's membrane absorb water. Now it appears to me that the texture of the retina at the yellow spot allows of a freer post-mortem transmission of the water of the vitreous humour through to Jacob's membrane than at other parts; and, consequently, that this part of the retina is earlier loosened from the choroid, and rendered liable to be thrown into accidental folds, than the rest; and in this way I account for the plicæ at the yellow spot, which some anatomists have regarded as a natural condition.

On removing the sclerotica and choroid with care from the back of an eye, so as to expose the outside of the retina, the yellow spot seems more transparent than the rest of the nervous sheet; no fold appears, but in its centre a minute dot, which seems like a circular hole, through which we can look into the vitreous humour. I have on some occasions seen this hole so distinctly, and with so definite a margin, that it seems impossible to deny its reality; but whether it occupies the whole thickness of the retina, being a deficiency in all the layers, I am unable positively to say. I have in one instance deemed it wanting in Jacob's membrane, which wore the appearance of passing uninterruptedly over it; but the difficulty of bringing the part under examination by sufficiently high powers, without mutilation or disturbance, and without swelling of the parts from imbibition, is such, that I would not speak too confidently on this point. The adhesion of the hyaloid to the retina is more intimate than that of the choroid to the same part; and, therefore, it is even more difficult to examine the hyaloid surface of the yellow spot with high magnifying powers, without disturbance *of it*, than the choroidal; for if the vitreous be detached from over the yellow spot, some derangement of it is sure to occur: and to cut through the vitreous, so as to leave a thin film of it *in situ* upon the yellow spot, is a very nice matter. When this is satisfactorily done, we observe the border of the spot to rise into a gentle eminence, so that its middle part projects a little towards the vitreous humour; and in its centre is an oval or slit-like hollow, formed by the hyaloid surface dipping on all sides from the hyaloid, and the opposite sides coming into contact, the vitreous not entering the hollow. Thus the surface of the retina at the yellow spot appears to present a slanting surface to the rays of light.

Modification of the retinal layers at the yellow spot.—The texture of the several layers at the yellow spot is much modified. In particular, the grey fibres do not pass over it in a direct course from the optic nerve to the side of the retina beyond the spot, but take a circuitous course, so as to avoid the spot, and only that small number approach the spot which properly belong to it, and terminate in it. In this respect it differs from the rest of the deeper portion of the retina, and must be regarded as more perfectly organized. In the same way, as is well known, this portion of the retina, though so near the main vessels, is not encumbered by any of the large branches, but the branches which supply the spot and the regions beyond it arch above and below it at such a distance as not to interfere with its perfection, and the spot itself has only capillaries which communicate with the arterial and venous twigs on all sides. This arrangement of the blood-vessels occurs also in animals which have no yellow spot.

The plexiform fasciculi of grey fibres approaching the spot have nucleated vesicles of large size interposed in the meshes; and as the fibres gradually lose themselves from view, these vesicles increase in number so as at length to occupy the whole surface. It is possible to see the fibres reduced to smaller and smaller bundles, and become overlaid by the vesicles; but I have never been able to distinguish any special relation subsisting between the fibres and the vesicular elements. The nucleated vesicles of which I now speak are not exactly like those met with in the retina generally; and whether they are a modification of those of the layer (2) or of the caudate vesicles, I cannot say; for at the yellow spot the inner layers are less distinguishable from one another than elsewhere: on a vertical section, they are more confused, and present, in common, a rather obscure, dark, yellow aspect. I incline to believe, however, that the vesicular nervous matter (2) is here in a high state of development, the vesicles being very numerous, and of more stable constitution than elsewhere. The layer, which I suggested might be that of the caudate corpuscles, appears to become considerably thicker, and to blend with the vesicular on the surface of the yellow spot. The layers of the agglomerated granules pass into the yellow spot, the granular layer, *g*, being thinner, the nummular, *n*, thicker than elsewhere. The two elements of Jacob's membrane are found over the yellow spot as on the surrounding parts of the retina; the rods are of the same length, but thicker, and the bulb-like bodies are nearer together.

The colour of the spot does not appear to be confined to any single texture, but appears to bathe all the textures, except those of Jacob's membrane, in a common cloud of rich yellow, deepening towards the centre. The colour is here and there in minute grains of deeper hue; but in general it does not seem to lie in proper pigment cells, but to stain fibres, vesicles, and granules alike. The colour soon disappears after death, or in water; in the dried retina it is permanently retained.

Such, gentlemen, is a brief account of the retina as I have found it in numerous examinations in man and animals during the last four or five years. If you take the trouble to compare it with the accounts which have been published, you will find it to correspond in most points with the most recent descriptions furnished by Hannover, Pacini, and others, but to differ from all in a few particulars. It has not been my object to discuss disputed points, but to combine in one view what seemed most consistent with the truth of nature. I would venture earnestly to advise those of you who have the opportunity, to examine this elaborate structure for yourselves, as it contains within a small compass a most admirable and orderly arrangement of parts, some having the common characters of nervous elements, but others of so singular an aspect, and properties, as to present questions of great interest, upon which a more extended study may be expected to throw much light.

Original Communications.

SOME REMARKS ON THE

NATURE AND PROBABLE CAUSES OF THE PROPAGATION OF CHOLERA MALIGNA.

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The long-expected visitation of cholera renders it incumbent on every member of the medical profession, as far as possible, to make up his mind as to the conduct to be pursued in such a contingency, according to the best information he can obtain of its character.

One of the most important questions to be determined is, whether this pestilence is, or is not, infectious. I shall not dispute about terms: nice verbal distinctions are unworthy of such subjects. Is it communicable? whether by breath, contact, fomites, or otherwise? If it is communicable, this question is answered. In this discussion, however, I shall use the terms infectious or contagious as meaning communicable, the least objectionable one, but less commonly in use.

If we consult such evidence as is offered in many writings, and I may especially mention the cholera number of the Edinburgh Journal for

February 1832, containing a most impartial statement of facts, as well as Dr. Copland's celebrated Dictionary, we shall find the evidence for its being infectious in many instances remarkably strong, and hitherto incapable of disproof, as far as I can see; while the evidence against it, although in many cases apparently striking, is still of a negative character. The arguments in favour of its non-infectious character I shall briefly examine.

The first is derived from the manner in which it suddenly springs up in various parts of towns in which it occurs; but one or two analogous phenomena will serve to illustrate the *possibility* of such occurrences where communication cannot be doubted.

The sparks of a railway-engine ignited the thatch of a farm-house. A high wind was blowing at the time, and within a very short space the village in which it occurred was on fire in many different places. Would it be logical reasoning to say that the fires originated in these various places independently and spontaneously? That they were not the result of communication from the original fire, but that the houses which remained unburnt among them, *proved* that the cause was not a common one? The only difference between the two phenomena probably is, that in the one case the sparks were evident to the senses; in the other, the *results* only are known, the medium of communication being invisible.

Again, several persons, well known, were suddenly and cotemporaneously attacked with small-pox, at long distances from each other (twenty or thirty miles, at least, asunder); the case being small-pox, no one would doubt there had been infection some where; but, "mutato nomine," suppose these had been cases of cholera, it might have been asserted that they had arisen from some peculiar undefined state of earth, air, or heaven: now, in the case in question, it was at last found that these persons, coming from considerable distances, had been attending a meeting in a country town where the infection of small-pox could be distinctly traced, and they had suffered from it. May not similar phenomena in this disease be explicable in the same way?

Again, currents of air have been supposed in some way or other to induce cholera; but are there no analogous facts which attach to other (acknowledged) infectious diseases where the currents have conveyed the materials of infection? Are the black assizes at Oxford and Exeter forgotten? where, although there was no immediate propinquity, yet the current passing over the prisoners in the dock, across the court, fatally struck a large number of persons,—albeit the prisoners were not themselves ill, but came from highly infected places, with clothes conveying the fomites. One cause of the apparently simultaneous outbreak of such a disease, is probably this. Many individuals may have received the germs of infection, which have not been brought into operation until a sudden change in the atmosphere has developed it: then, what has been attributed to this (a second cause), is really owing to a first and different one; in this way some circumstances which have been much relied on by the anti-infectionists, as, for instance, a part of the crew of the Topaze, being as it were simultaneously affected by a current of air coming off an island in their passage, may be explained, for, if there were among the crew persons previously influenced by the infection, such a current (perhaps approaching in character to the simoon) might give it immediate activity.

Again, much has been inferred from the localities in the immediate neighbourhood of those infected by cholera being entirely exempt, as if it was the state of the air alone, whether depending upon its electrical condition, or other causes, that determined its production in those who suffered; but are there no similar phenomena in the history of other infectious diseases? On the contrary, we continually see measles, small pox, scarlet fever, influenza, raging with violence in particular towns and localities, while those near and in constant communication with them, are exempt.

Again, so much has been said of cholera being developed in low damp places (especially by those who consider it to have been so generated in India in 1817), that we might almost suppose they considered this condition of frequent occurrence; but there are low damp places enough through the world; filthy enough, full of malaria, producing both chronic and acute disease—diarrhœa, dysentery, fever; but they have not generated malignant cholera in past times, and they do not now. Europe has a similar, but really different, malady, produced by warm damp air especially, and that every year, but it is not this disease. The pestilence in question (the black sickness of the Russians) will prevail as well in dry and healthy situations, although not always in an equal degree,[*] but with all its peculiar characters. It will exist in every temperature, in every season, in every latitude, as well when excessive heat would dissipate the plague; where coolness would preclude the possibility of yellow fever; and when excessive cold would equally destroy every kind of malaria supported by dampness.[†] Circumstances of situation, temperature, and other conditions of the air, aggravate or lessen its violence, but there is no evidence that they produce it. In these respects it agrees with influenza.

If any state of the atmosphere were the parent of cholera, how account for the history of the gaol at Moscow? The air that swept to death numbers of persons around it, induced no malady in its inmates until its gates were opened to a person labouring under the disease, and it was then as fatal within as without, excepting to those who were placed in a separate building, and still maintained their non-intercourse, —I mean that appropriated to the nobles. They still remained exempt.[‡]

Some vague telluric influence has also been assigned as a cause, but can we suppose that such a cause would recognize the foundation walls of a building, and not pass the boundary; or that it would spare a particular class of people, as in the case now stated?

Again, I apprehend that when cholera has broken out on board ship, it has spread among the crew, albeit the vessel was every instant changing its position, or even its course. Here all the influence of *rivers*, *marshes*, and of *land malaria*, are excluded. *Currents of air* must equally be set at nought, unless we suppose their extent equal to the breeze that impels, and the velocity equal also, which would, if applied to the land it equally blows over (as in fair reasoning it must), give a determinate direction, a breadth of attack, and a rapidity of course on that land, which agree in no respect with the facts. In ships under sail, *telluric influence* would likewise be lost from the constant mutation. The *peculiar changes in the atmosphere*, considered by some philosophic observers to be a concomitant, must be equally set at nought, unless we suppose them followed by a cloud like the Israelites of old. I need not say that the foul air of a ship, although capable of producing *many* diseases, will not produce this pestilence.

We now come to another and main argument with the disciples of non-infection—namely, the immunity of persons about the sick; but here we at once meet with so many instances of the contrary,[*] as to destroy, in a great measure, the cogency of this argument; and it may be added, that there is no disease in which immunity does not appear to exist as to large numbers. In the present case, both the immunity and the liability seem equally remarkable, yet the former may not be so real as it appears: may we be allowed to attempt an explanation of this?

In considering infectious and pestilential diseases, I would submit that two classes exist: in one, the attack, if it takes place at all, is almost invariably most malignant,—such is the case in plague and yellow fever; in the other, *we have every variety of intensity*, from the mildest to the most severe,—such is the case in scarlatina and variola; such also in influenza. Now, supposing cholera to belong to this class, the persons who either abide in, or frequent cholera localities, or attend the sick, may thus be affected in a *slight* as well as in a severe degree, although the evidence is not rendered equally clear as in small-pox or scarlatina by the eruption; and thus it may well happen, that the attendants, though infected, may shew the disease *so* slightly, as not to be returned in the lists, nor indeed to be much considered either by themselves or others, unless an excess, an over-fatigue, or other occasional cause, should develope it in all its intensity. In influenza (which I believe also to be eminently and widely infectious), the same thing occurs; few escape altogether in a place where it rages, but only a certain portion fall gravely under its power. Wherever cholera has greatly prevailed, we find facts stated which bear strongly on this argument, *i. e.* that a large proportion of the inhabitants are out of health, with crampy feelings, giddiness, nausea, faintness, perhaps diarrhœa, even though pursuing their avocations. Those persons are ready for a severe attack; an occasional cause will develop it: but this may not occur, and they have it not. In some of the worst localities the predisposition is greatest, a large proportion suffer and succumb; in the best, but few. From this general but mild infection, comparative immunity is probably obtained, and it becomes converted by degrees into complete exemption. If I may be allowed to employ a comparison in illustration, I should liken them to persons who, being silently and gradually charged with electricity, become no longer liable to its sudden and destructive shocks, while those who are first exposed to the storm, in places newly attacked, not having passed through this process of assimilation, are at once struck fatally down as by the stroke of a thunderbolt. If this mode of regarding the phenomena be correct, it will serve to explain a remarkable fact—namely, that a large proportion of the attendants on the sick (medical and others), although frequently more or less indisposed, do not get the malady in its most fatal form: what appears their greatest danger is perhaps their safety. To this process is perhaps owing also the well-known decrease of the disease in places invaded, it commonly ceasing after a few weeks: this may arise, no doubt, from some unknown change, but it also may from the immunity of the residents thus acquired.

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[*] It raged with great violence at Quebec, at Madrid, and at Segovia,—the latter, I believe, about 3000 feet above the level of the sea. Madrid, also, very high, and possessing a very dry atmosphere. Nothing can well be more decisive on this point than the very description of the province of Orenburg, when it first invaded Russia, "appearing suddenly in an inland city, remote from any of its known abodes at the time; in a temperate climate, and in a dry, open, and cultivated country, and among a people who enjoy abundantly all the necessaries of life: it spread slowly over an extensive province in defiance of intense protracted frost, and uninfluenced by any other varieties of weather."—Report of Professor Lichtenstadt, Ed. Journal, p. 1.

[†] It has raged in a temperature 30° below zero.

[‡] Cholera number of Edinburgh Journal, Feb. 1832, p. clxxxvii.—I have *chiefly* selected the facts from this work, because it is most evident that the editors were men of undoubted learning and ability (Dr. Christison and Dr. Craigie), and because they have suppressed no evidence offered on either side.

[*] Some of these may be mentioned. "The number of deaths among the Russian-Greek church is striking." "It was exactly this class that was most exposed to infection." Ed. Journal, p. xcii. "And of 264 medical men of St. Petersburgh, 25 have been seized, and 9 have died of cholera." "We are satisfied from the statements we have personally received in the numerous hospitals we have visited, that the proportionate number of attendants of all descriptions on the sick, who have been taken ill with cholera, is fully greater than that of medical men." Dr. Russell, ibid. clxxii.

If the disease is considered infectious, little difficulty will arise from various phenomena (which however explained or inexplicable) it possesses in common with other epidemics. They slumber for a time, then break out with violence, sweep in a particular direction, ravage a large portion of the earth's surface, and subside again for a while.

If we endeavour to account for the original production of this and kindred diseases, we may form plausible hypotheses. We may suppose yellow fever to be engendered by a certain degree of heat; plague by Egyptian sepulture; cholera by prodigious floods: but there is little proof of all this. It has been the will of the Supreme Being, from time to time, to create new races of animals—new forms of disease: they exist for a time, and then cease from the earth. The animals which have newly appeared at different ages of the world, can in no degree be accounted for by any mixture of races, which the laws of nature contradict, and render impossible; neither is it necessary to suppose that the destroying pestilence, whatever its character may be, has been *fortuitously* engendered.

When the seminum has once been produced on the surface of the earth, we must admit that, under certain conditions, it may be preserved indefinitely, and after long intervals renew its work of destruction. We ourselves prove this, by the length of time we, for useful purposes, preserve the virus of the vaccine or small-pox; but the phenomena of other diseases equally bear witness to the fact. I could, if necessary, bring the strongest proofs of the infection of scarlatina, (which, having never been disputed as an infectious disease, may be cited with more force than the very probable ones of plague or yellow fever), having been shut up for many months, nay, more than a year, and then acting with extreme and unabated intensity. If one, why not for many years? If such diseases, when they break out afresh, indicate the same characters, is it not likely that they each spring from its identical source, instead of being the result of new and fortuitous creations?

Again, many of the phenomena of this and other kindred diseases admit of an explanation, if we allow that the semina can operate at large distances. It has been assumed, rather than proved, that beyond a certain number of feet the infection of ordinary fever does not operate. If this be true as regards that disease, it may not be of all; but I deny that it has been proved as to fever. The phenomena of those fatal instances already mentioned at Oxford and elsewhere, show that the infection was wafted far beyond the boundaries commonly assigned; nor do I see any reason why strict limits *should* be assigned. The sum of infectious material would no doubt diminish cæteris paribus as the square of the distance; but there is no proof that the smallest possible quantity may not produce the full effect. Our feeble and imperfect organs of sense can discover the scent of game, or the smoke of an encampment, only at small distances; but the hound or the Indian will do so far beyond our powers of perception. If these elements are then ascertained to be diffused from afar, why may not this be equally the case as regards the semina of disease? When we bear in mind the fact that pestilential cholera is found to exist in every locality, whether wet or dry, high or low, in every season, in every temperature, on the sea as well as by land,—facts which seem to exclude the belief that there can be more than one cause,—it is, if so, more rational to suppose that cause akin in its nature to other pestilences, than to believe it to be the offspring of the foul air engendered by damp and decay, or any other undefined source.

It may be allowable to think, that the anxiety to deny infection, evinced by the persons in this country deputed to consider this great question, has mainly arisen from their wish to disarm it of that dread which the idea of infection inspires in many; but, although the object, if so, is in some degree laudable, it may be doubted whether it is just or wise. If the sick would be deserted in the alternative of infection, good might arise from such attempts; but there is little probability, judging from the conduct of our people on a former occasion, that such would be the case; and it certainly would tend to a great increase of the disease, by the omission of many measures calculated to avert it. Neither can I think that it would abolish fear (a main cause, it is assumed, of its occurrence); for it would be seen that people going into, or abiding in, a place, or house, or room, are struck down by the disease, and it would matter little whether the arrow came from the *person*, or the *place*. The Pontine marshes are as much to be dreaded as the Fever Hospital. Neither is it quite so clear that fear does produce so powerful an effect. Its importance has, I think, been overrated. Children too young to comprehend, lunatics incapable of doing so, have been largely, perhaps equally attacked. The soldier, inured to danger of every kind; the Mahometan, who believes that death cannot be shunned; the Hindoo, who is resigned to it, have constituted no exceptions; and if in any case the mortality has been more than usually great, it has been when the religious feeling, *paramount to every other*, has congregated its devotees in large numbers on solemn pilgrimages.

If those who hold the opinion that cholera is not infectious, are right in their opinion, cholera hospitals, may, as they say, be useless—disinfectants out of the question; but, if wrong, they deprive the public of their best defence—the sick of their most effectual aid.

It is by them represented that cholera hospitals are worse than useless: that they are pernicious; but how stand the facts? The returns from Moscow of 1831, tell a different tale[*]; and the recurrence of the Russian Government to the same system now, shews the impression *that* experience produced. Another very common error, which has been more than once stamped with authority, is contradicted by the same tables.[†] That error is, that cholera chiefly assails the poor, the dirty, and the indolent: this point has been strained too far. In addition to the evidence I have now alluded to, it may suffice to state that soldiers, a class of men ordinarily removed from the influence of these circumstances, have nevertheless shewn no exemption from its attacks when comfortably lodged in barracks, excepting under the most strict seclusion.

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[*] Cases in private houses attacked 1490; died 938; recovered 493; treated in 25 temporary sick houses, or district hospitals, 5004; died 2770; recovered 3285; *i. e.* in private houses nearly two-thirds died; in hospitals little more than half.—Ed. Journal, No. lxxxiij.

[†] In Moscow, out of 4543 deaths, there were 1061 in the better classes.—Ed. Journal, No. lxxxiij.

The most remarkable of those points on which it has been assumed that cholera is not infectious have now been briefly examined, and reasons assigned both for doubting the validity of the assumption, and for explaining some of the phenomena which have been considered as favouring the opinion of its non-contagious character: and if (to sum up the arguments) it be allowed that the cause of cholera is an infection; that this infection is copiously produced from the bodies of the sick; that it may be disseminated to large distances; that the inhabitants of places attacked are liable to be influenced in great numbers, *though in very different degrees*; that the severe attacks are commonly the result of some powerful occasional cause; that the mild ones have been improperly omitted *as instances of the disease*; we may explain nearly all the phenomena which have been observed, little explicable upon any other hypothesis hitherto advanced.

On this point—viz. the manner in which it has been customary to limit the returns to the severe cases only, and especially to sanction the opinion that flux from the bowels is either essential to the disease, or the only premonitory symptom—it ought not to be necessary to say anything now, so general has been the declaration of all men conversant with it, that it attacks in various *forms*; and that flux from the bowels is not essential, though a very frequent result, and a common occasional attendant. If these matters were merely those of dry debate, it would not be worth while to consume time and paper about them; but as the question now comes home to us all, it is important to ascertain on which side the weight of argument rests. On this depends the propriety of separating the sick from the healthy, or the healthy from the sick; of avoiding causes of infection, if it exists, where no duty requires exposure; of removing from infected places, where residence is not incumbent; of being warned of the approach of the disease by other indications than a looseness; and preventing it by those measures which have been pointed out with propriety where a diarrhœa precedes, but which should be more generally laid down as regards other premonitory symptoms.

Before I close this paper, I may be permitted a few words on a subject which is of much interest as connected with the pathology of the disease—namely, the inspissated state of the blood. This has been regarded as a cause of the deficient circulation and of the asphyxia, and it has been attributed to the large separation of the fluid parts of the blood from the alimentary canal; but it may be asked whether it does not occur in those severe cases where no flux has taken place, and death ensued before any diarrhœa has existed? Again: I will ask whether we do not often meet with cases which have been redeemed from this stage of blueness and inspissated state of the blood, although no fresh introduction of watery matter into the circulation could have diluted it, but where the change manifestly wrought in it must be ascribed to some other cause? Many of our physio-pathological notions partake in these times of the physics or chemistry of the ancient scholiasts; and it might be wise to look further, and regard animals as something more than common matter. I believe myself that the changes in the blood of cholera patients either depends upon the operation of the poison, which, as it were, curdles it in the vessels, or on the loss of so much of the vital principle as to allow it to approach a state of semicoagulation before death actually occurs.

One more suggestion, and I have done. In various conditions of the system, when under the influence of morbid poison, whether acute, as in fever, or otherwise, as in syphilis, (secondary) or in scurvy, in many states of the alimentary system, when the secretions are morbid, as in dysentery, I have used yeast in large quantities, and with great advantage; I have not heard of its being employed in cholera. *It may deserve a trial.*

⁂ We have an impression that yeast has been already used in the treatment of cholera.

A NEW MODE OF REMOVING NÆVI.

By J. C. Christophers.

In the early part of the year 1845, in a contemporary journal, I described my method of applying a simple ligature (devoid of other apparatus) effectually to strangulate and to remove nævi. Nearly four years' experience has proved so completely its utility and success, that I am tempted to give it further publicity, and to accompany its description with a few observations indicating the advantages it holds out over methods in general use, together with a short notice of cases successfully treated by its means.

The greater number of the operations for nævi are performed on infants at the breast, and generally by one of two methods,—by excision or by needles; each of which is open to grave objections, and both, in certain cases, impossible to perform. The former is attended with hæmorrhage always more or less difficult to control, and that at a period of life when loss of blood is ill supported. The latter is painful, tedious, and most irksome to an unweaned child, and not less so to its nurse. To these circumstances the operation I am about to describe owes its origin.

Being called on to remove a nævus from the forehead of a child, assisted by my friend Mr. Lonsdale I performed the operation by excision, and though favourably situated for making firm compression (it being over the frontal bone), we experienced the greatest difficulty to arrest the hæmorrhage, to which the life of the child threatened to fall a sacrifice. Shortly after this, I was called to remove a nævus from an unweaned child, situated directly opposite to, and closely bordering on, the inner canthus of the right eye, extending thence upwards towards the eyebrow, and inwards towards, and reposing on, the nose, reaching nearly to the median line; it was very florid, and about to ulcerate. One glance at the awkward situation of this tumor will shew how inapplicable are the methods usually adopted. The child was not weaned; therefore the operation by needles would have been most inconvenient to it, and to the nurse, even had it been possible to apply them. Excision would have been no less so, as the hæmorrhage would have been considerable, and in a situation most unfavourable for compression. To obviate these inconveniences, I devised, and, assisted by Mr. Lonsdale, performed, the following simple operation; and though a written description may cause it to appear intricate and complex, it is as simple as any mechanical contrivance can well be. It requires merely a needle and a piece of waxed silk for its performance, which may be divided into two stages. 1st, That in which the ligature is passed; 2ndly, that in which the nævus is strangulated, and may be described as follows:—Take a piece of strong silk, well waxed, about half a yard long, and dip the moiety of it in ink to dye it, the more readily to distinguish the ends after it is divided; thread a needle with the same, leaving the ends equal, and pass it under the centre of the part to be removed. This done, cut the ligature in the middle, leaving the needle attached to the inferior or black half of the ligature; take the same and pass it through the skin, immediately below the part to be strangulated. Thread the needle with the superior or white half of the ligature, and pass it through the skin in an opposite direction to the black ligature, immediately above the part to be strangulated. Remove the needle.

2nd stage.—Tie tightly the two ends of the black loop that includes the inferior half of the nævus. Tie in the same manner the two ends of the white loop that includes the superior half of the nævus. The four ends remaining, two black and two white, are now to be tied alternately and tightly, the one to the other, and the operation is completed. The whole mass to be removed is by this means completely and entirely enclosed in a double circle, both from within and without, and is most effectually and permanently strangulated.

The cases in which I have employed this operation are six in number: each case was witnessed by Mr. Lonsdale, who kindly assisted me, and in all, its success was perfect; not an untoward symptom or accident of any kind supervened, the most singular, yet the most satisfactory circumstance being, the small amount of pain it seems to entail; for immediately the ligature is tied, the suffering appears to cease: the amount of pain, therefore, resolves itself into three pricks of a needle. Mr. Hawes also, to whom I taught this operation, performed it in one very difficult case, he tells me, with complete success. The situation of the nævi in the six cases was as follows:—

1st. Mrs. G.'s child, three months old, not weaned, situated directly opposite to, and closely bordering on, the inner canthus of the right eye, extending to the eye-brow, and reposing on the nose.

2nd. Mrs. C.'s child, situated on the forehead, covering a space an inch and a half in diameter.

3rd. Mrs. B.'s child, unweaned, situated over the ribs.

4th. Mrs. P.'s child, unweaned, situated over the temple.

5th. Mrs. B.'s child, unweaned, situated on the nose, extending to the inner angle of the eye.

6th. Mrs. G.'s child, unweaned, situated on the forehead.

The advantages this operation possesses over those in general use, I conceive to be the following:—

1st. That the risk of hæmorrhage is avoided, and that neither needle nor other apparatus is left, with risk of injury to other parts, and to the inconvenience of the mother, the infant, or the nurse; and that it is very easily, quickly, and safely performed.

2ndly. That it leaves less deformity or scar than the operations by excision or by needles, as the sound skin surrounding the nævus is made by the ligature to fill its place, and is there held as by two points of suture.

3rdly. That it is adapted to all cases, and can be applied easily in situations where other methods cannot be used at all,—whether the nævus be extensive or limited, superficial or deep, prominent or flat.

4thly. That the pain appears to cease the moment the operation is completed, and that no further dressing or interference of any kind is required to perfect the cure.

Basing an opinion on these results, I think that if this simple operation were generally known, the methods by excision and by needles would be but rarely practised. At any rate, it would stand the surgeon instead, in those cases where the former operations are impracticable, as there is no case of nævus that may not be compassed by its means.

8, Upper Montague Street,
November 6th, 1848.

ON SEVERE COLD OR CONGELATION AS A REMEDY OF DISEASE.

By James Arnott, M.D.

Many powerful physical agents which are destructive when they act in an uncontrolled manner on the human body, become remedial when their action is regulated and applied under appropriate circumstances. Excessive heat, which, when extensively applied to the body, is immediately destructive of life, may be so limited or controlled, even when it is of so high a degree as to render iron white, as to furnish an useful therapeutical means; and the opposite extreme of temperature, or a degree of cold causing congelation of the animal textures, which has hitherto been only regarded as the cause of disease, when it is not too low, too extensive, or too much prolonged, constitutes, as will appear by the following *observations*, a remedy of great importance, and of very general application.

Intense cold or congelation would probably, long ere now, have obtained a place amongst the more potent therapeutical means, but for a mistaken notion respecting its effects on the animal structure. It has been always dreaded as a cause either of violent reaction and inflammation, or, if longer continued, of the immediate gangrene or death of the part subjected to it; and the common accidents from intense frost, in severe winters and high latitudes, have appeared to justify this apprehension. But, although it is perfectly true that the body thus exposed to intense cold may suffer as severely as when it is exposed to intense heat, or is burned by accidental fires, yet when severe cold is regulated as has been just described, it becomes an agent of a very different character: it produces neither reaction nor mortification. When limited in degree, duration, and extent, it exerts an anti-inflammatory power; it appears to depress the vascular and nervous energies permanently, and yet within the bounds of safety; and, probably, while it depresses, it considerably modifies the vital action.

I was led to doubt the correctness of the common opinion of the effects of congelation, by observing that when intense cold had been used to remove the sensibility of parts previously to surgical operations, the wound appeared, in every instance, to heal more rapidly than under the usual circumstances; and I had no hesitation in endeavouring to extend the useful application of so valuable a property.

As it is only my wish at present to establish the right of congelation to be admitted amongst our more valuable remedies, I will not enter into details respecting the diseases in which I have had recourse to it. If the above explanation of its action be correct, it is obviously applicable to a great number of the most formidable maladies to which the human frame is subject. As respects its anæsthetic action on the nerves, it exerts a most beneficial influence in many painful diseases, the seat of which can be reached by it; but it is probably as a preventive and prompt remedy of vascular excitement or inflammation, that it will be chiefly valued. Cold has already a high character as a remedy of inflammation; but a continuous low degree of cold, such as has hitherto been employed (or rather which it has been the endeavour to employ), may only repress the morbid energy, which a short application of a much greater degree of cold may altogether and at once destroy. A class of diseases in which both nerves and blood-vessels are in a morbid condition, are affections of the skin, and these were, naturally, from being so obviously under the influence of the new remedy, amongst the first in which it was used. The most obstinate cutaneous diseases have yielded to congelation so speedily as almost, with respect at least to some of them, to suggest another explanation of its modus operandi. Had the cases of prurigo so treated been dependent, like scabies, upon the presence of parasitic animals, they could not have been more speedily cured by the sudden extinction of the life of these animals in the cold. A most distressing attack of prurigo pudendi was completely cured by two congelations, each of about thirty seconds duration, after a prussic acid lotion, and other routine applications, had been tried in vain.

Congelation to the degree which has been specified may be produced by the common frigorific mixture of ice and salt; though, for particular purposes, one of greater power might be prepared. The easiest mode of using the frigorific is, to dip a piece of ice into salt, and then apply it closely to the part. Congelation will be thus produced in half a minute. When the surface to be frozen is irregular, a little pounded ice and salt may be placed on a rag or on a flat bit of sponge; or the mixture may be confined to the part by a deep ring or bottomless cup, made of gutta percha or bees-wax, or by means of a thin bladder, each being provided with a small tube to carry off the warmer brine as the ice dissolves. The application of ice or very cold water to the skin is painful, but the frigorific mixture immediately suspends the sensibility. It has been applied to a carious tooth, an inflamed and ulcerated mouth from mercurial ptyalism, and an irritable ulcer, without causing uneasiness; but when the congelation commences, there is, for a few seconds, an uneasy sensation of contraction, proportionate to its degree. In the case of ptyalism referred to (a patient of the Brighton Dispensary, who had been deprived of sleep for two nights by the affection of the mouth), there was no return of pain, except in mastication, after one application of the frigorific, which was sufficiently powerful to blanch the lower lip as it flowed over it.

As the prevalent erroneous notion, that congelation of the animal textures must in every instance produce either violent reaction or gangrene, will probably prove some impediment to the reception of this important therapeutic agent, it may be well to remind such as may object to it on this account, of the vast difference between intense cold, acting for a long period on the extreme parts of the body where the circulation of blood is never vigorous, and cold applied for a very short period to parts surrounded by, or overlying, other parts, where the circulation is vigorous, and ready to re-animate the parts in which it has ceased. There is as great a difference between these cases as would exist between that of opium taken in unlimited quantity by a feeble child, and when taken in a suitable dose by an adult. I have now employed congelation nearly a hundred times for anæsthetic and remedial purposes, without its being followed, in a single instance, by any injurious effect. Even if the congelation be kept up for several minutes, there is no worse consequence than a slight congestion, with redness of a few days' continuance.

As respects the employment of severe cold for the production of local anæsthesia, it may be remarked, that although a fatal result now and then from the use of chloroform may not be thought a sufficient objection to its use, and although the intoxication or loss of consciousness during its action may be only deemed a slight inconvenience, still the facilitating of the healing process, by the prevention of an injurious degree of inflammation, ought, I think, to entitle the application of cold to the preference in the great majority of surgical operations.

65, Grand Parade,
Brighton, 11th Nov., 1848.

CYSTORRHŒA — DISCHARGE OF PHOSPHATIC CALCULI—CURE BY INJECTION.

By Thomas Balman, Esq.
Liverpool.

Mr. P., a Peruvian gentleman, 58 years of age, generally of temperate habits, though habitually indulging in a most pernicious practice of charging his stomach with a glass of spirits before dinner, consulted me under the following circumstances:—He states that he has always enjoyed good health, until about four years ago, when he contracted a chancre, for which he took mercury: the sore speedily healed, and he felt no further inconvenience, until some two or three months after, when he was attacked by symptoms of secondary syphilis, which also yielded at once to sarsaparilla and the usual remedies. With the exception of a slight attack of jaundice whilst in Peru, does not remember anything that in the least disturbed him in the exercise of his pursuits, either of pleasure or business, until the evening of the 2nd July, when, after dining as usual in company with a friend, he was suddenly seized with retention of urine. A surgeon in the neighbourhood was sent for, but states the bladder was not relieved until the following morning, when a catheter was passed, and the water drawn off without any difficulty. It was found necessary to continue the use of the instrument for about a week, when it was laid aside, the bladder having sufficiently regained its tone. He continued subsequently to suffer from all the symptoms of chronic inflammation of the bladder up to the 24th August, when I saw him for the first time. He then complained of a frequent desire to void his urine, which was always attended with the most excruciating pain, referred chiefly to the glans penis; the passage of mucus, mingled with calculous matter, greatly increased his agony, by sometimes blocking up the passage so completely as to prevent entirely the escape of any urine. He was effectually relieved of this impediment by syringing warm water into the urethra.

His countenance presented that pale, anxious, and sombre hue, so peculiar to these affections; and the tongue was coated with a brown fur. The urine brought me appeared to consist of but little else than a thick glutinous mass of jelly, deeply tinged with blood, of a fœtid ammoniacal smell, alkaline, changing turmeric paper immediately brown. The quantity of grey calculous matter passed in the form of crystalline gravel, and in a semifluid state, was very considerable: the specimen brought me having been carefully collected together a few days previously, was sufficient to fill a large pill-box.* He was ordered a grain of opium night and morning, and an enema of poppy heads, with thirty drops of laudanum, (the latter, however, causing constipation, was soon discontinued) lemonade as a drink, and rest in the horizontal position, &c. The more urgent symptoms having been relieved, he was directed to take the decoction of pareira with dilute nitric acid, three times a day, continuing the opium at night.

Sept. 5th.—Water still alkaline, increased in quantity, of a pale whey-like aspect; specific gravity, 1·013; at other times, when passed in less quantity, as high as 1·030. Large fragments of calculous matter continued to be voided, chiefly in the evening. The nitric acid increasing the irritability of the bladder, he took, instead, the acetic, and subsequently the dilute, phosphoric acid in the same decoction.

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* Dr. Brett found on analysis the deposit to consist of the triple phosphates, with a small proportion of the phosphate of lime, cemented together with a large proportion of mucus.

14th.—Bore the phosphoric acid very well; quantity of mucus, or rather muco-purulent matter, diminished. I have said muco-purulent, because the deposit every now and then presented that appearance; and, moreover, the supernatant liquid, when distinctly free of any blood, *sometimes* coagulated both on the application of heat and nitric acid. From this time the bladder was washed out with warm water daily with great benefit.

26th.—The bladder was injected with the following:—Acidi Hydrochlorici, ♏x.; Tr. Opii, ʒss.; Aq. Distil. ℥iv. This produced no pain, but brought on a second attack of retention of urine, arising evidently from the coagulation of the albuminous portion of the diseased mucus by the acid, which, finding its way into the urethra, prevented the escape of any urine. Large masses of this shreddy substance were afterwards discharged, and in a few days the catheter, which had been required to relieve this temporary difficulty, was discontinued. The injection was again used, but much reduced in strength, without any of these unfavourable consequences occurring. From this period a great improvement took place: no sand or calculous matter had been voided since the first injection of the acid; irritability of bladder greatly lessened; strength and appetite improved; and the tongue, which had before never varied in appearance, but always retained the characteristic brown coat, became almost suddenly clean, and the urine exhibited faintly its normal acid reaction. He took a decoction of matico, in place of tea, morning and evening, and a few drops of the Tinct. Ferri Mur. twice a day, with some apparent benefit, until the 30th of October, when he was sufficiently well to go into the country, and has since returned convalescent.

Remarks.—The foregoing case, the particulars of which have been hastily strung together from memory, although presenting no very novel or peculiar features, has been one of instruction to me, and I am not without hope but that it may be of interest to some at least of my readers. Catarrh of the bladder occurring at an advanced period of life, whether arising from stone, stricture, enlarged prostate, or simply, as in the present case, from the deposition and subsequent incrustation of the mucous lining of the organ by some of the constituents of the urine, must always be viewed in the light of a very formidable disease, unless we can ascertain and speedily remove the cause. Now the "fons et origo mali" here clearly depended upon a morbid condition of the mucous lining of the bladder, which, by chemically acting upon the urine secreted by the kidneys, caused the deposition of the insoluble earthy phosphates; to correct which I administered the mineral acids. Both the nitric and muriatic were tried, but without any decided effect, weak doses being ineffectual, and increasing their strength only tended to make things worse by augmenting the irritability of the bladder. The acetic acid seemed to agree with the patient, but did not appear to do any good. The phosphoric acid, however, he continued to take for some time, and appeared to be of great use, both in giving tone to the stomach and diminishing the quantity of mucus. After giving each of these remedies a fair trial, and assuring myself that no stone existed in the bladder, I determined upon attacking the disease by injections, and, as stated, with complete success: the secretion of earthy matter was immediately arrested, the irritability of the organ gradually subsided, and the dark fur which seemed to be permanently fastened upon the tongue began to disappear, and the urine, which before the injections had been constantly alkaline when passed, became neutral, and quickly assumed its normal acid reaction—a convincing proof, I think, that the studding of the bladder with phosphatic concretions was the cause of the alkaline condition of the urine, and not, as is very frequently the case, from disorder of the assimilative functions, in which case the urine would be secreted in an alkaline state by the kidneys.

There seems to be one very important point to be attended to as regards the strength of the acid injection necessary to accomplish the solution and removal of the calculous matter deposited by the diseased lining of the bladder. At first I believe I used the acid of too great strength; the consequence was, that dense masses of concrete lymph filled the urethra so completely as to prevent the escape of a drop of urine until a catheter had been passed. A large quantity of albuminous matter must therefore be secreted in these diseased conditions of the organ, which the acid will of course coagulate, causing much increase of suffering, if not more mischievous and fatal consequences. I should not again, therefore, venture on an injection of greater strength than two minims of the concentrated acid to four ounces of water, as recommended by Sir B. Brodie, always taking care to wash out the bladder, so as to free it of as much mucus as possible, with warm water, some days before, and immediately prior to the operation.

Oxford Street, Liverpool,
Nov. 14, 1848.

ON THE USE OF CHLOROFORM AND ETHER IN PUERPERAL INSANITY.

"As it is a great object to break the *continuance* of the sleeplessness of insanity, the occasional use of the *chloroform* vapour will be found valuable. We have had an opportunity of seeing more than one case in which it not only induced sleep, which had previously been absent for four or five nights and days, but the patient on recovering from its effects, was found to be quite tractable and free from violence. The inhalation of ether had been tried by M. Cazenave of Pau, in the case of a lunatic female who had rested neither night nor day for five months, and in which it induced tranquillity. M. Jobert, in a similar case, exhibited it with the good effect of inducing sleep, and restoring, temporarily, a state of rationality. M. Bouvier tried ether, also, in a case of puerperal mania, with very beneficial results. In this case there had been no sleep for a fortnight before using the ether; it use was followed on two occasions by '*un calme de quelques heures.*' We are bound, however, to add, that in some cases in which it had been tried by other practitioners, no beneficial effect was produced."—*Journal of Psychological Medicine.*

MEDICAL GAZETTE.

FRIDAY, DECEMBER 1, 1848.

It is with pleasure that we this week give insertion to an extract from a letter by Dr. F. Winslow on the proposed amendment of the law of Lunacy.* The subject is of great interest to the medical profession as well as the public; and the facts upon which Dr. Winslow comments, are sufficient to shew what a large amount of ignorance prevails in reference to medical certificates for the confinement of lunatics. The ignorance is with the public, not with those who have given rise to the necessity for contradicting false and libellous statements affecting the medical profession. There is a certain class of *reformers* (so called on the *lucus à non lucendo* principle) who attempt to procure alterations of the law by the invention and circulation of falsehoods respecting its unequal and unjust operation. They consider that they commit no offence by the suppression of one-half of the truth; although they must be well aware that, if they did not resort to this cunning mode of deceiving the public, there would be no plea for interfering with the law. In this class of reformers we must place the "Society for Promoting the Amendment of the Law." It appears that a Committee of this Society has recently reported on the law of Lunacy; and in the teeth of a stringent Act of Parliament only recently passed, they have come to the conclusion that the law requires immediate alteration. The supposed grievance is thus stated:—As the law at present stands, "simply on the certificate of two physicians, a person might be condemned to perpetual imprisonment on the charge of insanity." The falsehood of this statement, as it relates to the medical certificate or the duration of the so-called imprisonment, is so ably exposed by Dr. Winslow, that we shall refer our readers to his letter, which was addressed to one of the daily journals in which the Report of the Society appeared. We shall only remark that the Committee of "Equity" has shewn great courage in the publication of this statement, which all who know anything of the law of Lunacy will at once perceive to be untrue. So great is popular ignorance on medical subjects, that it would not surprise us if, in the next session of Parliament, a petition were presented in favour of an alteration of the law, for an objection which has no real existence. The falsehood of the statement may or may not be exposed: the absence of medical members from the House of Commons is, however, very much in favour of the success of these sham reformers. In the meantime, the profession is indebted to Dr. F. Winslow for the spirit which he has shewn in publicly contradicting the statement circulated by the Society, and we are happy to aid, by our efforts, the diffusion of the truth.

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* Page 948.

Before this number is in the hands of our readers, the election of President, Secretaries, and Council of the Royal Society for the ensuing year will have taken place. Concerning the nobleman selected for the office of President, Lord Rosse, there appears to be no difference of opinion. Rival candidates have, however, been proposed for the secretaryship, left vacant by the resignation of Dr. Roget. Mr. Grove and Mr. Bell, the new candidates, are men whose names are well known to science, and both have received a large amount of support, so that, for the first time for many years, there is to be the spectacle of an election struggle within the walls of Somerset House.

We last week inserted a paper, entitled a "Statement of Facts,"* in reference to the mode of filling up the proposed vacancy; and the reason therein assigned for the support of Mr. Bell—namely, that it is desirable not to have in the two secretaries, men exclusively devoted to the cultivation of Physical Science—would, under other circumstances, have been valid, and have commanded a large number of professional votes. We declined last week making any remarks on the choice of secretary, for the reason that both candidates have equally strong claims; and that we think any one deserving the title of Fellow of the Royal Society should know how to bestow his vote without requiring advice or suggestions for his guidance. What we have now to say cannot influence the election; but it does strike us as most extraordinary that the friends of Mr. Grove and Mr. Bell should have entirely overlooked the fact that a *third* list might have been prepared, in which the names of these two gentlemen should have been substituted for those of Dr. Roget and Mr. Christie. The latter gentleman, it is true, has *not* resigned his office: but this is nothing to the purpose—the appointment is not for life, or the statutes would not require an *annual* election. The object of the election is to have, as secretaries, two efficient men, who, whatever may be the paths of science which they have respectively pursued, shall have a fair scientific claim to the office. We do not wish to depreciate Mr. Christie's abilities as a scientific man; but we do not hesitate to say, that either Mr. Grove or Mr. Bell has a far stronger claim to hold the important office of secretary: and we consider it therefore most unfortunate that, on this occasion, the two best men should have been set in opposition to each other by their respective supporters. We have reason to know that the view which we have here taken is adopted by many fellows: it would at once meet the wishes of the two parties which are now struggling for victory, and the election of the new candidates would, we do not hesitate to say, confer honour on the Society. We fear, however, that this year it will be too late to ensure the election of two such efficient scientific men. There are a great many old and "odd fellows" who always adopt a house-list, and who uniformly act on Lord Eldon's principle of *quieta non movere*. Mr. Christie will, no doubt, receive their support, although the best that can be said for him is, that he has for some years occupied a very important office in the Royal Society with average respectability.

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* Page 905.

Should the efforts of the friends of Mr. Grove and Mr. Bell fail on this occasion to secure the election of both of these gentlemen, we trust it will be shewn by the result of the ballot, that at the next annual meeting Mr. Christie will be replaced by a more efficient secretary. He will owe the retention of his office on the present occasion to the oversight of the friends of the two popular candidates.

In consequence of the large number, as well as the mixed character, of the votes, the result of the election was not made known at the hour of going to press. We shall state the result next week.

THE case of Young *v.* Giger, reported at page 902 of our last number, is too important in its bearings on the interests of medical practitioners, to be passed over without notice. Our readers will have perceived by the decision, that the possession of the London license of the Apothecaries' Society is not necessary to enable a licentiate to recover the amount of his bill for medicines, &c. supplied to a patient, although the plaintiff may have practised as an apothecary in London while holding only the country license. We pass over the extreme meanness of any patient who would rest his plea for the evasion of a just debt upon so paltry a legal technicality. It would be well if such a class bestowed their patronage upon the Holloways and Morisons; the only obstacle to this arrangement, however, is, that the Hygeist pretenders are wiser in their generation, and act upon the safe principle of never giving credit.

The subject that now more immediately concerns us is this. The decision virtually does away with the necessity for a London license, except to those who intend to practise in the metropolis, and who may have a conscientious objection to cheat the Apothecaries' Society out of the additional fee which the Act of Parliament entitles them to demand. The law has now decided so far in favour of apothecaries, that although they may not act honestly towards the Society, their patients will be compelled to act honestly towards them. While the fee for the London license is ten guineas, that for the country license is six guineas. We believe that this difference in the amount of the fee was originally made under the laudable desire of inducing many young men, whose views in life were not fixed, to settle in the provinces. The plan has certainly not succeeded, for like the plaintiff in this case, there are some hundreds who are practising in London with the country license. We do not quarrel with the legal decision: this appears to us to have been in conformity with strict justice. The difference in the amount of fee does not in the smallest degree affect the qualifications of the practitioners; it is undoubtedly a mere financial question between him and the Society. The plaintiff in this case has called for the protection of the law; and if the Society were to follow his example, they might, under one of the sections of their act, enforce the payment of the additional four guincas, for which, after the result of this action, he is both morally and legally indebted to them! Of course, as he has recovered in the action, under such unexpected circumstances, there can be no doubt that he will immediately send the additional fee to the clerk of the society.

Admitting that there is no longera reason for demanding a higher sum for one license than the other, it becomes a question whether the cost of the single license should be hereafter six or ten guineas. This question cannot arise under the Apothecaries' Act, because the amount to be charged for the two licenses is accurately defined; and nothing but a new statute will enable the Society to fix *one* fee for the right to practise either in town or country. This decision of the judges must, however, compel them to adopt one or two plans,—either to enforce the penalty under the 21st section, against all who practise in London with the country license, or to grant this license only to all future candidates, and to leave them to practise where they please. No candidate can be expected to pay ten, when he can obtain for six guineas the only important privilege derivable from the license. We do not think that it would be fair dealing on the part of the Society, after this decision, to take the larger fee for a license, without giving the possessors a *quid pro quo;* but, unless some immediate steps be taken in this matter, they will assuredly have no applications for the London license. Admitting that they adopt the "*laissez aller*" alternative above suggested, it would be only an act of justice that they should return to each of their London licentiates, who have acted honestly, the four guineas which they have paid to the Society under the impression that they were receiving an exclusive benefit in metropolitan practice. The Society of Apothecaries are in truth placed in a dilemma. If they stand still under this decision, they wlll be guilty of a gross act of injustice to all their licentiates who have paid the ten guinea fee; and at the same time they cannot fail to damage most seriously their future interests, by rendering a London license unnecessary. If they move, there is apparently only one fair course to pursue—namely, to compel those who are taking, by the six guinea license, a benefit which is not allowed by law, to pay the difference, or to enforce the payment by penalty. We have not the smallest compunction for men, who, while they knowingly evade the law, and thereby incur a debt,—at the same time call in its aid to compel the payment of debts due to them by reason of this evasion. Such practitioners would probably raise a great outcry against Scotch and Irish licentiates being permitted to practise in England without the Apothecaries' license, while they themselves do not hesitate to take advantage of the supineness or indolence of the Society, in violating the provisions of the act by purchasing the cheaper license to practise in the country, and then commencing practice in the metropolis.

The deaths registered in the metropolis during this week, have exceeded the average by 53, and are 19 more than the deaths recorded last week. This increase is slight; and it appears to be due to a larger number of deaths having been recorded under diseases of the organs of respiration.

The total deaths from zymotic diseases are about the same as those registered in the preceding week; and the deaths from scarlet fever, diarrhœa, and typhus in the two weeks, are represented by almost the same figures. The deaths from *cholera* have decreased by twenty, and there is as yet no appearance of this disorder shewing any tendency to spread through the metropolitan population. The cases recorded on Saturday the 25th, were three, and two deaths; and on Monday the 27th, the dato of the last official report, six cases and three deaths.

In the provinces there were reported on the 27th Nov., fifteen cases and seven deaths; and in Scotland, eight cases and four deaths. The following table represents the total number of cases up to the present date :—

	Cases.	Deaths.
London . .	412 .	215
Provinces .	103 .	62
Scotland . .	922 .	403
	1437	680

PARIS ACADEMY OF SCIENCES.

Sitting of November 20, 1848.

M. J. Rossignon presented some samples of the seed of a species of sage, very abundant in central America, where they are much employed in medicine and the arts. These seeds have been used by the inhabitants of these countries for a long period of time, as a certain remedy for chronic and acute affections of the intestinal canal.

At this sitting there were no medical communications.

Reviews.

Medical Lexicon. A Dictionary of Medical Science, containing a Concise Explanation of the various Subjects and Terms, with the French and other Synonymes; Notices of Climate and of Celebrated Mineral Waters; Formulæ for various Medicinal and Empirical Preparations, &c. By Robley Dunglison, M.D. Prof. of the Institutes of Medicine, &c. in Jefferson Medical College, Philadelphia. Seventh Edition, pp. 912. Philadelphia: Lea and Blanchard. London: Bohn. 1848.

We feel that translantic authors have some reason to complain that we have of late neglected to notice, in our review department, their contributions to medical literature. We have now, on our table, an accumulation of about a dozen volumes, all of which are works of great merit, and deserve to be made extensively known in this country. The work which we here introduce to our readers—the *Medical Lexicon* of Dr. R. Dunglison—has already earned for its author a European reputation. With the exception of the excellent Lexicon of L. A. Kraus, the third edition of which was published at Göttingen in 1844, we are not acquainted with any medical dictionary which can compete with it.* Kraus's Lexicon, which does not admit of translation, refers chiefly to derivatives from the Greek, Latin, and Oriental languages. Dr. Dunglison tells us in his preface that his object "has not been to make a mere lexicon or dictionary of terms, but to afford under each a condensed view of its various medical relations, and thus to render the work an epitome of the existing condition of medical science. In its preparation he has freely availed himself of the English, French, and German works of the same nature, and has endeavoured to add every subject and term of recent introduction which has fallen under his notice; yet, with all his care, it will doubtless be found that subjects have been omitted." We are further informed, that in this edition there are between six and seven thousand terms which are not to be found in the previous editions.

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* A new edition of Hooper's Medical Dictionary has been announced; but as the publishers have not given us an opportunity of expressing an opinion on the subject, we are unable to say how far the numerous defects and deficiencies of the old editions have been removed.

We have examined the lexicon for a large number of words, including such terms as *Anæsthetic, Otiatria, Pyelitis, Mastitis, and Stomatitis*, which are not commonly met with in medical dictionaries, and on which medical readers occasionally require information; and we have found them with an explanation of their classical origin, and the signification under which they are employed. The long words are accentuated, and the French terms are put in a different type, so that they may be immediately recognized. Out of a large number of references, we have failed to find two words only, "*Spiculum*" and "*Deontology*"*;* but as these are not given in the elaborate lexicon of Kraus, and the latter term has been but recently introduced to express the moral relations of professional men to themselves and society (*τὰ δέοντα*, moral duties) we cannot regard these as omissions of any importance.[*] Nothing is more common than to find a surgical writer stating, in the report of a case, that "a *spicula* of bone was removed," just as we find otherwise accurate writers speaking of *animalcula* and *animalculæ*, instead of *animalculum* and *animalcula*. Dunglison has given these terms in their proper places, and in another edition, *spiculum* may, perhaps, be with propriety introduced.

Dr. Dunglison's Lexicon has the rare merit that it certainly has not a rival in the English language for accuracy and extent of references. The terms generally include short physiological and pathological descriptions, so that, as the author justly observes, the reader does not possess in this work a mere dictionary, but a book which, while it instructs him in medical etymology, furnishes him with a large amount of useful information. That we are not over-estimating the merits of this publication, is proved by the fact that we have now before us the *seventh* edition. This, at any rate, shows that the author's labours have been properly appreciated by his own countrymen; and we can only confirm their judgment, by recommending this most useful volume to the notice of our cisatlantic readers. No medical library will be complete without it.

On Pulmonary Consumption, and on Bronchial and Laryngeal Disease; with Remarks on the Places of Residence chiefly resorted to by the Consumptive Invalid. By Sir CHARLES SCUDAMORE, M.D. F.R.S. 8vo. pp. 259. London: Churchill. 1847.

OWING to accidental circumstances, this work, which has been for some time lying on our table, has not been noticed in our pages. Even now, in taking it up, the want of space in this department of our journal will render it impossible for us to give more than an outline of the views of the writer.

The author informs us, in his preface, that this work is not placed before the profession as a *treatise* on consumption, but rather as an essay, including a general sketch of the disease, with new suggestions respecting treatment. It has been long known that Sir Charles Scudamore is an advocate for the topical treatment of consumption by the inhalation of the vapours of certain medicinal substances, especially of iodine. This mode of applying medicines has of late been considerably extended in the general use of the vapours of ether and chloroform in diseases as different in kind as hooping-cough and hydrophobia. It would now be assuredly unreasonable to object to this method of applying medicinal substances to the lungs: all that can be fairly demanded is, that the substance used, and the plan of inhalation, should be compatible with the safety of the patient; and secondly, that, as a result of repeated trials, there should be a reasonable prospect of benefit from the practice. The author informs us that both of these conditions are fulfilled in his system of iodine-inhalation; and as confirmatory of this statement he adduces a large number of cases of phthisis, laryngitis, bronchitis, and asthma, in which it has been employed with variable degrees of success.

Some of our "constant readers" may remember that, nearly ten years since, Dr. Corrigan, of Dublin, recommended, in the pages of this journal, the use of iodine vapour in phthisis, by causing the patient to respire an iodized atmosphere. This he considered preferable to the direct plan of inhalation advocated by our author, because the latter was likely to cause irritation of the larynx and air-passages. There is not much in this objection. An iodized atmosphere, as we know from experience, may be made as irritating to the air-passages as if the iodine were inhaled directly from an apparatus. It requires, in both cases, a nice adjustment of the proportion of iodine; and, according to Sir C. Scudamore, the addition of conium tends to allay any irritation which may arise from direct inhalation. We shall now allow our author to state his plan of treatment in detail.

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[*] *Propädeutik* is also a term lately used by the Germans, which is not to be found in Kraus or Dunglison.

"The following is my formula:—℞ Iodinii puri; Potassii iodid. aa. gr. vi.; Aquæ destillat. ℥v. ʒvi.; Alcoholis ʒii. M. fiat mistura, in inhalationem adhibenda. But invariably I direct the addition of a *saturated* tincture of the dried leaves of conium, which in the most favourable manner softens the action of the iodine solution, and tends to soothe the bronchial mucous membrane. Of the iodine solution I commence with the dose of 30 minims, and increase it by 5 or 10 at a time, in a gradual manner, according to its effects and the nature of the case, till I may perhaps carry it to 240 minims; but, in the majority of instances, I confine my range to 180 minims. Whatever may be the quantity I use for each inhalation, I constantly direct that two-thirds of it be put at first, the other third when half of the time for inhaling has expired; otherwise it would be too strong at first and too weak at last; 30 minims of the tincture is the ordinary dose which I prescribe, and this need not be divided, nor does it in general require increase, as it is so much less volatile than the iodine, and enough of strength remains; but, if much of its soothing interest be wanted, either to allay irritable cough. or to act as a soporific, a drachm, or even a drachm and a half, may be employed; but in such case, it is better to use it in divided portions. The water to which these preparations are to be added, should be of a temperature of from 115° to 125° Fahrenheit;—as a medium, 120°; a little more or less is not material. The whole should be well blended by shaking the inhaler. This should be constructed of glass, for a metallic one instantly decomposes the iodine. Its tubes should be capacious, and the inhaler should never be quite half-filled; for if these two last circumstances are not carefully attended to, much inconvenience would arise, the inhaling would be rendered difficult, and which by proper attention is so perfectly easy a process, that an invalid with the weakest respiratory powers does not experience any difficulty. The last part of these preparatory steps, for the purpose of keeping up the proper temperature of the contents of the inhaler, is to place it in an open vessel, large enough to allow of the inhaler being a little removed from its sides. Water, of a temperature from 120° to 130°, is to be put into it enough to rise to about two-thirds of the inhaler; and, to prevent any inconvenience from the vapour which issues, the vessel should be covered over with a piece of thick paste-board, neatly fitted. Now desire the patient to inhale by making a rather deep inspiration, then to relax, or take off, the lips from the mouth-piece; and to inhale again immediately, carrying on the process effectively, so that the medicated vapour shall pass into the deep air-passages, but not in a quick and fatiguing manner. At the first time of using it, five or six minutes will be sufficient; but in the progress of the treatment it may be extended to twenty, twenty-five, or thirty; but I seldom in my direction exceed twenty. The frequency of repetition is from twice to thrice in the day; commonly thrice, for the first four or six weeks.

"These instructions may appear frivolous from the minuteness of the detail; but I can assure my reader that I have known several instances of failure of the plan entirely from some kind of inattention to the proper mode. The extreme purity of the medicines is another point of the utmost importance." (p. 109-11.)

We must refer our readers to the work itself for an account of the thirty-eight cases in which this plan of treatment has been employed. It is right to state that the author does not rely upon iodine inhalation alone. Independently of other remedial measures, he recommends, in the treatment of the phthisical, a proper attention to air and climate. Accordingly, the work is concluded with some suggestions on the choice of climate; a subject which has been already exhausted by the well-known work of Sir James Clark. We express no opinion of the author's plan of treatment: this, indeed, can be fairly settled only by an appeal to facts. The first part of the work contains much information relative to the pathology of phthisis, but we apprehend its interest to the practitioner will lie chiefly in the illustrative cases on the effects of iodine vapour. We have one friendly hint to throw out to the author, namely, that in a second edition, the first person singular, and the possessive pronoun "my," should be less frequently used. The defect runs through the book, and we think it will be sufficiently apparent in the casual extract which we have made.

Correspondence.

THE GRIEVANCES OF THE PROFESSION, AND A REMEDY PROPOSED.

SIR,—The statements of Messrs. Braddon and White, in the last number of the GAZETTE, respecting the Poor Law Medical Officers of their Union, demand the serious attention and consideration of the whole profession, which they say, and with truth, has been injured by the course pursued in reference to the filling up of those vacancies created by their honourable retirement,—a retirement forced upon them by their feelings of humanity and respect for the profession.

It is to be regretted that, in this matter, a better support had not been given to gentlemen who, from such honourable motives, stood forward in defence of the profession, sacrificing their private interests by resigning appointments, the duties of which they creditably discharged: this should of itself have elicited the sympathies of all: however, I am fully persuaded that the very partial support which their cause, and through them that of the whole profession, has received hitherto, proceeds neither from indifference to them personally, nor to the welfare of the profession, but from difficulty the most perplexing, as to how this state of things may be remedied.

Much has been written on medical ethics, and medical reform has been presented to us in every form imaginable, and numerous have been the assaults made upon the authorities intrusted with the Poor Law administration, by whom the profession's grievances can no more be remedied than can individual cases of injustice by one medical practitioner toward another be remedied by their patients. These are the unfortunate differences which too often occur among ourselves, and with which neither Poor Law authorities nor the public have, or desire to have, anything to do. How is it to be expected that a Poor Law or any other board, even though called a Board of Health, wherein a medical voice is never heard, can fully comprehend, and be prepared to combat, those difficulties which the ablest and wisest of our profession have been foiled in removing?

The profession is called upon by Messrs. Braddon and White, summarily to rid itself of such men as those who have so unworthily accepted office on the occasion alluded to; but, however interesting and useful such expulsion might, and I have no doubt would be, to the bulk of the profession, neither of these gentlemen has offered any suggestions as to how this moral force doctrine, which alone is applicable, might be carried out; and while I would gladly hail any change that may better the condition of our profession, both in a moral and pecuniary point of view, I am at a loss to understand where the pruning hook is first to be applied, the ignorance and presumption of some having rendered us as a body a laughing-stock too often in courts of justice, and subjects whereon barristers, in their fancied wit, might amuse their audience. And why is this? simply because there are amongst us men who consider nothing but pounds, shillings, and pence,—to whom professional honour and respectability are unmeaning terms.

To revise and equalize the standard of education seem the only points upon which reformers agree; but if by this is simply understood an increase of fees, so as to render the entry into practice more expensive, it will prove useless, if not positively injurious. How often do we find it (and this must be well known to all who have studied in any of the schools) that those students whose means are most limited, with few exceptions prosecute their studies more diligently and ardently than their more wealthy colleagues: then, any measure which would act as a drag-chain around the neck of the ardent but humble student, should be set aside, that eminence and distinction may be placed on equal terms of competition to the rich and the poor; it being a well-established fact, that the possession of wealth will not insure independent or upright conduct, and that, on the other hand, a high standard of education almost invariably brings to its possessor liberal and honourable views.

I would therefore suggest that degrees and diplomas should be granted after a vigorous and prolonged examination, without the high fees now paid for them. 2. That without adding any new or degrading title, practitioners in every department of the profession should be registered; thereby enabling the public and profession to judge who are and who are not authorized practitioners. To this should be added an act to prohibit any person practising in any department of the profession without being duly licensed and registered, under a heavy penalty; and also power to be granted to the different licensing bodies, not merely to erase from their registry those members who had acted in any way discreditably to their profession, but to prohibit them from exercising any of the functions which their license previously authorized them to do. With every sympathy for those whose devotion to the interests and honour of the profession has made them, as in the case of Messrs. Braddon and White, the victims of degrading competition, I would strongly recommend to the notice of the profession the necessity of first making an united effort to secure some such powers as those suggested in this communication, before we are in a position to rid ourselves of men who may prove themselves unfit to discharge the duties of a laborious but honourable profession.—I am, sir,

Respectfully yours,
CHIRURGUS.[*]

POISONING BY MISTAKE, AND SUGGESTIONS FOR ITS PREVENTION.

SIR,—In order to prevent mistakes arising from nurses or patients, through haste or inattention, giving or taking liniments or lotions, &c. internally, I have for some time past used the precaution of having the label applied *parallel* to (*i. e.* lengthwise on) those bottles containing such-like medicaments,—using the general mode of placing it transversely on all medicines intended to be taken internally; and it appears to me very probable that, if this plan were generally adopted, not only by general medical practitioners, but also by druggists,—so that medicines of powerful effect might be thus readily distinguished from those of a different description,—such accidents as you have alluded to, and animadverted upon, in the last MEDICAL GAZETTE, would often be prevented.

The plan, you must admit, is inexpensive, and attended with no trouble; and if you deem it worthy of notice, it will afford me great pleasure to find it recommended and brought into general use.—I am, sir,

Your obedient servant,
CAUTUS.

Nov. 22, 1848.

⁂ The suggestion is good. If coloured paper were used for the labels of liquids used externally, and white paper for medicine to be taken internally, it would add to the safety of this simple plan of preventing mistakes by patients.

THE PROPOSED ALTERATION RESPECTING MEDICAL CERTIFICATES OF INSANITY—MISTAKEN VIEWS OF A COMMITTEE OF "EQUITY."

[We take the following extract, on the important subject of medical certificates of insanity, from a letter lately written by Dr. F. Winslow, to one of the daily journals.]

It is asserted in the report, that "simply on the certificate of two physicians, a person might be condemned to perpetual imprisonment on the charge of insanity." Such, I assure you, is not the fact. I think it was the duty of the society, or of those deputed by them to "get up the case," to obtain accurate information on this point before so seriously committing themselves. No "two physicians" can, of their own authority, commit a person alleged to be insane to an asylum. The act of Parliament expressly forbids it. Surely the "committee on equity," or Mr. J. Steuart, the secretary, had the curiosity to look over the provisions of the "Act (8 and 9 Victoria, cap. 100) for the Regulation of the Care and Treatment of Lunatics." If they had done so, they would have seen that, coupled with the certificates of two qualified practitioners—not being partners—not being relatives of the party said to be insane—not being personally interested in his confinement—there must be a printed "order," filled up and signed by the relative or party authorising the detention of the patient. The certificates are invalid without this order;" and a party receiving and detaining in his house a patient, on the authority of two physicians only, commits a misdemeanour, and is liable to be seriously punished. It may be said, "Oh, any person will sign the order; this is but a trifling part of the proceeding." But, gentlemen, it makes a very material alteration in your statement. You publish only a portion of the truth; let us have the whole of it. This is necessary before being qualified to form a correct judgment of the existing state of the law. The Act of Parliament is expressly framed for the purpose of obviating, in every possible way, the unjust confinement of persons on the ground of insanity. The two medical men who are required to sign the certificates are to see the patient apart from each other; they are to state, in detail, the grounds for their opinions, to specify the particular delusions or actions of the party which, in their opinion, constitute insanity, and such a degree of insanity as to justify a deprivation of liberty. In addition to this, the party receiving the patient, on the "order" and medical certificates, is required to employ a medical gentleman to examine the patient, and this medical gentleman is required by the law to state his opinion of the case, and to forward to the commissioners within a few days a statement of the bodily and mental condition of the party placed under restraint.[*] In this way the public has every guarantee against the unjust detention of persons on the plea of unsoundness of mind. If a conspiracy exists, *the relative* so giving the "order," the *two medical men* filling up the certificate, *the medical man who sees and examines the patient after his admission, and the proprietor of the asylum*, must be parties. Compare these facts with the allegation—the unfair representation of the "committee on equity"—that "simply on the certificates of two physicians a person might be condemned to perpetual imprisonment on the charge of insanity."

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[*] The writer has forwarded his name and address.

[*] If the proprietor of the asylum be a medical man, he is qualified to send in the report.

I now come to the question of "perpetual imprisonment." Surely the Commissioners in Lunacy will not feel themselves highly complimented. How absurd is the statement. "Perpetual imprisonment!"—the idea is preposterous. Is it likely that if the medical man required to see the patient, is disposed unnecessarily to prolong the confinement of a particular individual, that the Commissioners in Lunacy are likely to sanction such a proceeding? They are compelled to visit all licensed establishments, and to examine each inmate, and to discharge those whom they conceive unjustly detained. They may enter a house any day or hour they think proper, and at night if necessary: they are empowered to examine witnesses on oath; they never give any intimation of their visit, and every precaution is taken to prevent the possibility of a party being improperly confined on the plea of mental incapacity. I would ask the "committee on equity" whether there does not exist such a legal document as a writ of *habeas corpus?* and whether this does not operate against the possibility of a person being "condemned to perpetual imprisonment" on the charge of insanity? I have had, for the last ten years of my life, constant opportunities of becoming practically acquainted with the operation of the law of lunacy; and I can state, having had some hundreds of cases of insanity under my care, that I never saw a medical certificate of insanity which the physician was not fully justified in signing; and, more than this, I have never seen a person consigned to an asylum unjustly. I believe this is the experience of most men connected with institutions for the treatment of the insane. Cases may arise in which the most skilful, cautious, and experienced medical men will be deceived; but they are of rare occurrence. I have, during a long period of my life, been in the habit of visiting the principal public and private asylums for the insane in this country, and I never saw a person confined without good and valid reasons.

The "committee on equity" propose, in addition to the two medical certificates, "that it might be advisable, before confining a person on the ground of insanity, to resort to the judges of the county court, or to the magistrates in session, or perhaps call together a small jury to decide upon such cases." The suggestion is altogether impracticable, and must have emanated from a person but little acquainted with the condition of those most frequently consigned to asylums. A party is suddenly seized with a paroxysm of insanity. He is violent, smashing everything within his reach; he may have made an attempt on his own life, or on the lives of those about him. It is essentially necessary, for his own security, and the safety of others, that he should, without loss of time, be placed under surveillance, and be protected against his own characteristic impulses. Picture to yourselves carrying such a case before a "judge of a county court," or a "magistrate in session," or "perhaps a small jury," before taking measures to place the patient in a position where his life would be safe, and where immediate medical measures could be adopted to subdue the maniacal excitement. The idea is quixotic! In many of these cases it is a matter of the highest importance to immediately remove the patient from home. The irritation to which a frenzied person would be exposed by bringing him before any judicial tribunal, or "small jury," might possibly endanger his life, and greatly increase the violence of his mental excitement. I am certain it would operate injuriously by greatly retarding his recovery. Even in cases where symptoms were not so acute, the course proposed would be highly objectionable. It is not to be supposed that a knowledge of insanity comes by intuition, and that a person, because he happens to be "a judge of a county court," or a magistrate in sessions," or a member of a "small jury," is qualified *ex cathedrâ* to detect the delicate shades of disturbed mind, and to pronounce a satisfactory opinion of the competency of a party to control himself or manage his property. In my time I have seen *a large jury* pronounce a person, unequivocally insane, of sound mind, and fit to be at large. I should not, therefore, be disposed to trust to the discrimination of the *small jury* proposed; that jury could not come to a proper decision without hearing evidence—evidence could not be adduced and witnesses examined without counsel—and, altogether, the inquiry would be very complicated, vexatious, irritating, and unnecessary. If this mode of procedure be adopted, it is my firm belief that many valuable lives would be sacrificed. Take the case of a man, who, in a fit of despondency, or under the influence of a delusion, known only to himself, makes an attempt at suicide. He fails in effecting his object; his mind rallies; his relatives are, of course, anxious about his safety; two medical men examine him, and give it as their opinion that he ought, for a time, to be under surveillance. The patient manifests no obvious indications, apart from the attempt at suicide, of insanity. He is taken before one of the proposed tribunals and examined. The patient talks rationally, can give reasonable answers to any questions proposed—appears calm and free from excitement. He is pronounced unfit for confinement. In an hour after this wise decision, he may be found weltering in his own blood! It may be urged that I have no right to suppose that such would be the judgment of the tribunal. I know enough of the decision of juries to feel convinced that a verdict of insanity never can be obtained, unless very strong and conclusive evidence is adduced of the existence of insanity. Cases in which the mind is but slightly impaired, as in incipient insanity, where prompt and early treatment is essential to recovery, a jury would never pronounce in favour of confinement, particularly if the party alleged to be insane protested against it. I cannot, in whatever light it is viewed, conceive a *more mischievous* "amendment of the law" than that contemplated by the "committee on equity." It is not my purpose to enter into the consideration of the other portions of the report: I shall merely observe that the statement put forth exhibits but little knowledge of the subject; and I would humbly suggest, before finally deciding upon what alteration of the law the society may consider necessary to propose for the sanction of the legislature, that the "committee on equity" should authorize some member of its body to make himself acquainted with the existing operation of the Law of Lunacy, as a preliminary step to any amendment of that law that in their wisdom they make think proper to propose.*—I remain, sir,

Your obedient servant,

FORBES WINSLOW, M.D.

Sussex-house, Hammersmith,
Nov. 15, 1848.

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* The "committee on equity" makes mention of the alleged cruelties practised in private asylums. May I beg their particular attention to the following passage, which I extract from a work recently published, entitled "Thoughts on Severe Diseases of the Human Body, by E. J. Seymour, M.D.":—Dr. Seymour acted for a period of eight years as one of the Metropolitan Commissioners of Lunacy, and was in the habit of constantly visiting private lunatic asylums. This distinguished physician, whose practical knowledge of insanity is not exceeded by any living medical man, observes, in his chapter on "Mental Derangement," "I must in common justice premise, that during my period of duty as a Commissioner of Lunacy, I never witnessed one case of cruelty. The greatest care was taken, the most assiduous, nay, the most invidious (to innocent people) inquiries were made. Every suspicious case was examined on evidence, and never any case of cruelty, nor any thing like it, occurred."—P. 217. Since this physician resigned the post of commissioner, private asylums have been placed under much stricter supervision, and, of course, there exists less opportunity for the alleged "cruelties."

Medical Intelligence.

DISAPPEARANCE OF CHOLERA FROM THE CITY.

AT a meeting of the City Commissioners of Sewers on Tuesday last, Mr. Simon, the Medical Officer of Health, reported to the court that no case of cholera had occurred since he had made his last report. He, however, repeated that he considered it necessary that he should be supplied with the particular returns from the medical officers of the city unions for which he had in the first instance applied, as an indispensable means of enabling him to adapt the sanitary regulations to the various contingencies which might arise.

CHOLERA FROM DEFECTIVE VENTILATION AND DRAINAGE.

ON Friday last, an inquest was held in Goodman's-fields before Mr. W. Baker, coroner, on the body of a child named William Keating, aged four years, who died after a few hours' illness, with all the symptoms of malignant cholera. The inquest was held at the instigation of Mr. Liddle, the medical officer of the district, in consequence of his having been called to attend no less than five cases of Asiatic cholera in the court where this death took place. Mr. Liddle stated that the court was about 70 feet in length, and about five feet wide (a person standing in the middle of the court might touch the houses on both sides). The ventilation was impeded by a dead wall at each end of the court, the houses were crowded and dirty, and many of the privies were overflowing. He had no doubt the child died a natural death from Asiatic cholera. The coroner remarked that the court was one of the worst he had seen, and it appeared impossible to remedy the defective ventilation of it. He said he would write to the parochial authorities respecting it. Mr. Liddle observed that it was highly expedient that an officer of health should be appointed for the Tower Hamlets, who should have power to compel the owners of property to render the houses which are let to poor people wholesome, and if the property be so bad that it cannot be remedied, then it should be condemned. The law now gave power to surveyors to condemn property that was dangerous from dilapidation: the same power ought to be given to an officer of health, to condemn houses which endangered the lives of the inhabitants from poisonous emanations. The coroner said he believed there was a law which rendered an owner liable to the charge of manslaughter if a case of death ensued from the unhealthy condition of a dwelling-house.

THE CHOLERA AT PLYMOUTH.

Nov. 23.—The first decided case of Asiatic cholera in this port, during the present visitation of that direful disease, has apparently occurred this morning on board Her Majesty's hired convict ship Cadet, Captain Pratt, now lying in the Sound. The Cadet has about 150 adult female convicts, and 20 children, on board. Margaret Farrel, one of the former, was taken ill yesterday afternoon, and died this morning, and the surgeon of the ship reports it as a case of malignant cholera. The captain immediately communicated the circumstance to Admiral Superintendent Sir John Louis, at Devonport. The body will be brought ashore, and an inquest held this evening before Mr. John Edmonds, the borough coroner.

Nov. 25.—On board her Majesty's hired convict ship Cadet, in the Sound, no fatal case of cholera has occurred since the first and only one, that of Margaret Farrel, on the 23d instant. The second case, by the aid of chloroform, has providentially taken a favourable turn, and the patient is so far recovered as to be considered out of danger. To prevent a recurrence, suitable precautions are taken, and hot stoves have been distributed throughout the ship both below and on deck. Little or no sickness prevails.

During the present visitation no authenticated death from malignant or Asiatic cholera has taken place in either of the towns of Plymouth, Devonport, or Stonehouse, containing unitedly a population approaching to 100,000 souls.

THE CHOLERA AT ST. PETERSBURGH.

SINCE the commencement of November, the cholera has reappeared at St. Petersburgh, where it rages at present with more intensity than in July. Amongst the first victims were an aide-de-camp of the Emperor, and M. Lejars, formerly an equestrian at the Cirque in the Champs Elysées, who was director of the Circus at St. Petersburgh.

ST. LUKE'S HOSPITAL.

A SPECIAL general meeting of the governors of this hospital for the insane, was recently held at the George and Vulture Tavern, Cornhill: Mr. Shaw Lefevre in the chair. The resignation of Mr. Henry Lambert, the resident apothecary, was received and accepted, and the situation declared vacant. Mr. Lambert retires from ill health, after having performed the duties of his office for eight years to the entire satisfaction of the board. A resolution highly complimentary to Mr. Lambert was carried unanimously, and the secretary was directed to advertise for candidates to fill the vacancy. The salary has hitherto been £200 per annum, but the governors have not yet fixed upon the salary to be paid for the future. According to the last report, there were 34 males and 68 females in the hospital at the commencement of the year, and during the year 71 males and 125 females had been admitted. Of the total number of patients, 101 were cured, being equal to 64⅓ per cent.; uncured 49, or 31¼ per cent.; dead 7, or 4½ per cent. The total receipts during the past year were £7,163 15s. 11d., including £5,065 5s. 11d. dividends on funded property. The disbursements amounted to £5,328 16s. 2d., leaving a balance of £1,838 1s. 9d. in the hands of the treasurer. There have already been numerous applications for the vacant office.

ANÆSTHETIC MIDWIFERY IN AMERICA.

THE anæsthetic agents, ether and chloroform, have now been used in perhaps 2000 cases of midwifery, and so far as the Committee (Committee on Obstetrics of the American Medical Association) have been able to learn, without a single fatal, and very few, if any, untoward results. The Committee, in a pretty extensive correspondence with physicians in various parts of the country, have found an entire unanimity of opinion among those who *have tried* these agents, as to their favourable effects, both in advancing the progress of the labour, and in relieving the sufferings of the patient.—*Trans. of Americ. Med. Assoc.*, vol. i., p. 228.

ST. BARTHOLOMEW'S HOSPITAL MEDICAL APPOINTMENT.

AT a meeting of the Governors of this Institution, held on the 22d instant, Dr. W. S. Kirkes was appointed Medical Registrar, and Demonstrator of Morbid Anatomy.

ROYAL COLLEGE OF SURGEONS.

THE following gentlemen were admitted members of the College on the 24th inst.—J. Carroll—J. F. Watson—C. Creed—R. T. Deakins—S. Churchill—W. Maltby—T. Venn—H. B. Clapham.

APOTHECARIES' HALL.

NAMES of Gentlemen who passed their examination in the science and practice of medicine, and received certificates to practise, on Thursday, 23rd November, 1848:—Henry Julian, Harefield, near Uxbridge—Thomas Walker, Wakefield, Yorkshire—John William Billing, Steggall, London—Robert Powell, Bristol.

OBITUARY.

ON the 18th inst., at Long Langton, near Blandford, Dorset, George Crosse, Esq., aged 79, for many years a resident of Lyndhurst, Hants, and formerly a surgeon in the Royal Dragoons.

On the 22nd inst., of pneumonia, at Brompton, at the residence of Robert Howe Gould, Esq., George Hine Young, Esq., surgeon, late of Blackfriars Road, and of Hampton, aged 32.

At Kingston, Canada, on Thursday, 12th October, Francis Armstrong, Esq., M.R.C.S.I. and late Surgeon of the Emigrant Hospital in that city, aged 31.

At the River Thames, parish of St. Pierre, U. C., Dr. Louis Albert Bender, a native of Montreal, aged 60.

BOOKS & PERIODICALS RECEIVED

DURING THE LAST TWO WEEKS.

Quekett's Practical Treatise on the Use of the Microscope.

On the Cure of Ulcers by Fumigation. By G. A. Walker.

Pym on the Yellow Fever.

British American Journal of Medical and Physical Science. Nov. 1848.

Surgical Experience of Chloroform. By Professor Miller.

On the Diseases of the Heart and Blood-vessels. By J. Hope, M.D. F.R.S. 4th edition.

Chemistry as exemplifying the Wisdom and Beneficence of God. By G. Fownes, F.R.S. 2d edition.

Journal de Pharmacie et de Chimie. Nov. 1848.

Wochenschrift für die Gesammte Heilkunde. Casper. No. 45, 4th November.

Diet and Cholera. By William Barnard Boddy, Surgeon.

Observations on the Pathology of Croup. By Horace Green, A.M. M.D. New York.

A Practical Treatise on the Diseases of Advanced Life. By G. E. Day, M.D.

A Critical Treatise on the general Paralysis of the Insane. By Jas. M. Winn, M.D.

Selections from Journals.

PATHOLOGY.

ON THE PRESENCE OF ALBUMEN IN THE URINE. BY DR. FINGER.

SINCE it has been determined by repeated observations that the presence of albumen in the urine occurs in other cases than in those of Bright's disease of the kidney, other signs have been advanced as peculiar to, and characteristic of, this disease—*e. g.* the diminution of urea in the urine, the occurrence of fibrinous casts of the urinary tubules in this fluid, the presence of urea and of uric acid in the blood and dropsical fluids. But none of these circumstances can be regarded as peculiar to Bright's disease alone. In the course of his inquiries into the subject of morbus Brightii, Dr. Finger examined the urine of about 600 patients, and frequently found albumen in it. Of 186 cases of tubercular disease, the urine contained albumen in 46, while in only 2 of this number was there evidence of Bright's disease. Of 88 cases of typhus, the urine was albuminous in 29, becoming so on the average from the sixteenth to the twenty-fifth day of the disease: in those of the 29 that recovered, the albumen disappeared from the urine as they became convalescent. 17 of the 29 died: the kidneys were in all perfectly healthy. Of 46 cases of puerperal fever, the urine contained albumen in 32: in 6 of these which died, and in which the urine had continued albuminous after the cessation of the lochial discharge, dissection shewed purulent peritonitis, the kidneys being healthy. Of 14 cases of carcinoma, the urine was albuminous in 6: examination after death discovered carcinomatous ulceration of the stomach in 3 of these, and of the uterus in the other 3: the albumen in the urine in the latter cases might have been due to this fluid being mixed with the discharge from the ulcerating surfaces. Of 33 cases of pneumonia, the urine contained albumen in 15; of these 6 died, and the kidneys in all were found healthy. Of 65 cases *of intestinal* catarrh, albumen was found in the urine of 8, 3 of whom died.

Dr. Finger believes that, in the above cases, the albumen in the urine is not simply separated as such, but is probably a constituent of inflammation lymph, or of pus, which has been formed in some part of the body, and brought by the circulation to the kidneys, whence it finds its way into the urine; for in many of the cases the formation of pus in some part was attended by the simultaneous appearance of albumen in the urine. In addition to the previously mentioned cases, Dr. F. found albumen in 2 out of 6 cases of chlorosis, in 2 out of 16 cases of acute rheumatism, in 1 out of 10 of intermittent, in 2 out of 14 of pleurisy, in 2 out of 6 of peritonitis, in 3 out of 16 of chronic bronchitis, and in 7 out of 18 of disease of the heart. A remarkable circumstance was observed in regard to the urine of two epileptics. One of the patients was a labourer, aged 32, who had been epileptic for years, but was otherwise in good health: in him, after each attack of epilepsy, a large quantity of albumen appeared in the urine, then gradually diminished, and in about 36 hours quite disappeared, until the next attack, when it again occurred in large quantity. The same phenomenon was observed in the other epileptic, a young girl 12 years of age, who was otherwise in good health.—*Oesterreichische Medicinische Wochenschrift.* Δ

ON SANGUINEOUS PERSPIRATION.

BY DR. SCHNEIDER.

It has often been a question whether, under any circumstances, blood is ever mixed with the fluid of perspiration in human beings. Dr. Schneider remarks that he has several times observed the phenomenon. He mentions having been once summoned to a healthy man, 50 years of age, who, for a period of twelve hours in succession, had travelled on foot: during the journey he had perspired much in his feet; and, on examining them at the end of it, they were found covered as high as the ankles with a sanguineous perspiration, which had also soaked into and stained his stockings. In another case of a healthy young man, Dr. S. mentions having noticed that, after violent exercise, the perspiration beneath the arms was of a bright red colour; and he quotes a similar case from Hoffmann.

In proof that the perspiration over the whole body may also be of a sanguineous character, he mentions one case in which it had been observed in a delicate man after copulation, and then quotes the following still more remarkable case from Paulini. While surgeon on board a vessel, a violent storm arose, and threatened immediate destruction to all. One of the sailors, a healthy Dane, 30 years of age, of fair complexion and light hair, was so terrified that he fell speechless on the deck. On going to him Paulini observed large drops of perpiration of a bright red colour on his face. At first he imagined the blood came from the nose, or that the man had injured himself by falling; but, on wiping off the red drops from the face, he was astonished to see fresh ones start up in their place. This coloured perspiration oozed out from different parts of the forehead, cheeks, and chin; but it was not confined to these parts, for, on opening his dress, he found it formed on the neck and chest. On wiping and carefully examining the skin, he distinctly observed the red fluid exuding from the orifices of the sudoriparous ducts. So deeply stained was the fluid, that on taking hold of the handkerchief with which it was wiped off, the fingers were made quite bloody. As the bloody perspiration ceased, the man's speech returned; and when the storm had passed over he recovered, and remained quite well during the rest of the voyage.—*Casper's Wochenschrift,* 1848. Δ

NEGLECT OF THE CLAIMS OF THE PROFESSION BY THE PUBLIC.

"There is at times an obtuseness in the public mind in regard to the legitimate claims of the profession, a want of discrimination in recognizing the genuine tokens of success, and an absence of veneration for the dictates of experience. The new, the striking, some wild fancy or chimera—a system which appeals to the curiosity, or flatters the imagination, is often suffered to blind the vision of the multitude to the utility of positive knowledge, and the appeal to unaided truth. Insensible or indifferent to the responsibilities of the profession, countenance is given by individuals of high social position, equally as by the illiterate and the vulgar, to measures the inefficiency of which has been proved by long-established facts. The wisdom slowly but surely earned by positive experiment, is thus thoughtlessly put aside for the speculations of the hour, and absurdities a thousand times exposed. How deservedly contemptible, nay, criminal, may all this be pronounced, in an age which boasts its general intelligence! Yet what mind of comprehensive views, that looks truth in the face, observes the relation of things, and calculates consequences, but must feel assured that this great enormity will lead to its own destruction, and that the hour of retribution must arrive. Its toleration cannot much longer be granted. The mischief which it engenders, wide as is its influence, assimilates little with the enlightened philanthropy of the times; it must disperse as the product of a period, pretentious of novelties, too much devoted to sordid concerns, and criminally indifferent to the value of human life. Nor is there need of any marvellous sagacity to foretel the future. The abettors of these unhallowed schemes already appear dissatisfied with their own doings; and, distracted by the conclusions of their own understandings, already they begin to suspect the fidelity of their senses, and seem alarmed at the scepticism of their deluded victims. To hasten so beneficial an advent, to disenthral a people thus abused, on a subject of deeper interest than even wealth, according to popular estimation, is a design of no ordinary importance. More exalted motives to action in this deplorable condition of medical practice, can never influence man in his associate relation, nor higher objects awaken his zeal, or greater good follow his efforts. With fixed intentions to exercise a duty which has become imperative, if we would claim the homage of pure disciples in our high calling, and in default of public solicitude, the errors and absurdities which beset us, to the disgrace of the Hippocratic art, and the sacrifice of human life, must be visited with a wholesome supervision, both as a labour of love and as a duty the most exalted. A strenuous, yet peaceable policy is to be cherished, and liberal maxims inculcated; yet between alternatives, a preference is to be given to a just and honourable maintenance of legitimate medicine, rather than a disgraceful repose when her proper sphere is invaded.—*Dr. J. W. Francis' Anniversary Discourse, New York.*

BIRTHS & DEATHS IN THE METROPOLIS

During the Week ending Saturday, Nov. 25.

BIRTHS.		DEATHS.		*Av. of 5 Aut.*	
Males....	696	Males....	585	Males....	581
Females..	670	Females..	622	Females..	573
	1366		1207		1154

CAUSES OF DEATH.		*Av. of 5 Aut.*
ALL CAUSES	1207	1154
SPECIFIED CAUSES	1506	1149
1. *Zymotic* (or Epidemic, Endemic, Contagious) *Diseases*..	387	270
Sporadic Diseases, viz.—		
2. Dropsy, Cancer, &c. of uncertain seat	57	52
3. Brain, Spinal Marrow, Nerves, and Senses	117	127
4. Lungs, and other Organs of Respiration	222	222
5. Heart and Bloodvessels	42	38
6. Stomach, Liver, and other Organs of Digestion	62	67
7. Diseases of the Kidneys, &c...	7	12
8. Childbirth, Diseases of the Uterus, &c.	6	14
9. Rheumatism, Diseases of the Bones, Joints, &c.	7	8
10. Skin, Cellular Tissue, &c.	1	2
11. Old Age.....	52	64
12. Violence, Privation, Cold, and Intemperance	27	32

The following is a selection of the numbers of Deaths from the most important special causes:

Small-pox	27	Paralysis	24
Measles	19	Convulsions	37
Scarlatina	118	Bronchitis	81
Hooping-cough ..	36	Pneumonia	97
Diarrhœa	27	Phthisis	103
Cholera	34	Dis. of Lungs, &c..	13
Typhus	70	Teething	8
Dropsy	14	Dis. of Stomach, &c.	6
Sudden deaths	8	" Liver, &c...	9
Hydrocephalus....	36	Childbirth	6
Apoplexy..........	23	Dis. of Uterus, &c..	0

REMARKS.—The total number of deaths was 53 above the weekly autumnal average.

METEOROLOGICAL SUMMARY.

Mean Height of the Barometer .... 29·56
" " " Thermometer[a] ...... 45·5
Self-registering do.[b] .... Max. 64·7 Min. 24·5
" in the Thames Water " 0· " 0·

[a] From 12 observations daily. [b] Sun.

RAIN, in inches, 0·29.—Sum of the daily observations taken at 9 o'clock.

Meteorological.—The mean temperature of the week was 2.°6 above the mean of the month.

NOTICES TO CORRESPONDENTS.

The very interesting case forwarded by Dr. R. P. Cotton will have early insertion.

Dr. Little.—We are obliged to our correspondent for the lecture. It will appear in the following number, and a proof sent.

Dr. Milroy's paper in continuation, next week.

M.D.'s letter on the evil effects of cramming students for prizes and medals will be inserted.

Mr. Perry Dicken's communication in our next.

Dr. Collins's letter reached us too late for the present number.

The Examination papers for the M.D. degree in the University of London will appear next week.

A Cheltenham Looker-on.—We regret that we have not been able to procure a list for publication.

Mr. Owen's case of Lacerated Liver has been received, and will have a place in our columns.

RECEIVED.—Dr. Collins.

THE GENERAL INDEX.

We have to announce to our Subscribers that a GENERAL INDEX to the *first* 40 *Volumes* of the LONDON MEDICAL GAZETTE will, it is calculated, form a large Volume of about 700 pages. The cost of the INDEX VOLUME, respecting which many inquiries have been made, will be Twenty-four Shillings; and it is proposed to commence it so soon as the Names of *Five Hundred Subscribers* have been obtained.—The printers, Messrs. WILSON AND OGILVY, 57, Skinner Street, will receive the Names of Subscribers.

Lectures.

COURSE OF SURGERY,

Delivered in the years 1846 *and* 1847,

By Bransby B. Cooper, F.R.S.
Surgeon, and Lecturer on Surgery at Guy's Hospital.

Lecture XLIV.

Genito-urinary Organs (continued).—*Fistulous openings into the perineum—case—Abscess in perineo—treatment—case—necessity for caution in dividing the stricture, as the obstruction often arises from the matter only—Disease of the prostate—the prostate both a urinary and generative organ—tendency to sudden enlargement—anatomical characters—enlargement peculiar to old age—Morbid sensibility of the vasa deferentia—symptoms—treatment—Inflammation of the prostate gland generally arises from gonorrhœa—treatment—Abscess in the prostate—symptoms—diagnosis—opening of the abscess—Spontaneous evacuation of the pus into the rectum or urethra—treatment—Ulceration of the prostate—calculi in the prostate—cases—Enlargement of the prostate in old age scarcely to be considered a disease—symptoms—treatment chiefly palliative—use of prostatic catheter—case—Fungous disease of the prostate—case—diagnosis.*

Diseases of the Bladder.—*The Bladder only an excreting organ—Diseases generally proceed from morbid condition of urethra or prostate gland—Inflammation of bladder—Paralysis of bladder—case—Hypertrophy of the coats of the bladder—ulceration—symptoms—Sloughing of mucous membrane—Fungoid disease of the bladder.*

Fistulous openings in the perineum.—Retention of urine, whether arising from permanent stricture, the presence of calculus, or, indeed, from any cause which prevents the flow of the urine, may be spontaneously relieved by ulceration of the urethra behind the cause of obstruction, from which extravasation of urine, and subsequently abscesses, must necessarily result, and fistulous openings being established, the patient is relieved by the flow of urine through them. Such a condition must not, however, be allowed to remain; and it is quite clear that the fistula cannot be cured without the stricture being divided so as to restore the natural canal for the passage of the urine. Puncture of the bladder in such cases would, in my opinion, be quite ineffective in relieving the patient, and the cure can only be produced by dividing the stricture, in perineo, as I have already described, and by freely laying open all the sinuses, however numerous they may be. A gentleman, from Barbadoes, came under my care, who had not only been the subject of stricture for several years, but had also fistulous openings into the perineum, scrotum, and even into the rectum. In this case I first divided the stricture in perineo, and passed a large catheter into the bladder; I then laid open all the sinuses, and divided the sphincter ani muscle: in three months the patient was perfectly cured.

Abscesses in the perineum sometimes result from stricture, even when the obstruction is not sufficient to produce actual retention of urine. These abscesses occur from the dilatation of the urethra behind the stricture, leading to ulceration of its structures, and consequent infiltration of urine; in such cases swelling in the perineum soon results, and rigors supervene, indicating the formation of pus: a free opening into the perineum should be immediately made, and the catheter passed, if practicable, along the natural passage of the urethra into the bladder: should you not be able to effect this at the time, repeated gentle efforts must be made to restore the normal continuity of the canal. Such ulceration of the urethra may, however, occur, as I have already said, without being produced by an impermeable stricture, so that it frequently happens, in such cases, that the catheter passes readily into the bladder without meeting any insuperable obstruction; but this should never be attempted until the abscess be opened, as the accumulated matter itself might cause considerable impediment to the passage of the instrument. The following case affords an example of this fact:—I was sent for to see a patient who was suffering from retention of urine, of which the symptoms were so urgent that I immediately attempted to pass a catheter; not succeeding, however, in relieving the patient, I proceeded to examine the perineum, where I discovered a tumor of considerable size: in this I made an incision, and a quantity of pus and urine were immediately evacuated. As the patient stated that he had been the subject of stricture for many years, I considered it better to open at once the membranous part of the urethra: I therefore passed a female catheter into the bladder, and, drawing off the urine, relieved the patient from the symptoms arising from the retention; I next passed a male catheter along the natural passage of the urethra, as a preliminary to the division of the stricture; to my great surprise, the instrument readily passed on, and when the female catheter was withdrawn, at once entered the bladder: this circumstance showed that if I had attempted to pass the male catheter before I divided the membranous portion of the urethra, I should have found the more formidable part of the operation to be altogether unnecessary. The experience I derived from this case has since often prevented me from cutting into the membranous part of the urethra, after opening an abscess in perineo, without first attempting to pass the male catheter along the natural course of the urethra: such a precaution is, indeed, rendered doubly necessary by the fact that abscesses in the perineum may result from external injury, without any other implication of the urethra on the canal than that arising from the mere pressure of accumulated matter, the evacuation of which immediately relieves the symptoms.

Diseases of the prostate gland.—It is somewhat difficult to decide whether the prostate gland is most important as a urinary or as a generative organ; as its diseases interfere, however, with the performance of both these functions, it may rationally be viewed in relation to either of them. The prostate gland is composed of numerous follicles connected by a dense cellular membrane; but it is not furnished with a distinct capsule, which circumstance probably accounts, at least in some measure, for its tendency to undergo sudden enlargement. The excretory ducts of the prostate gland, which are from fifteen to twenty in number, terminate in the prostatic portion of the urethra, by the sides of the verumontanum; and if the urethra be laid open at this part, the secretions may be seen to exude when the gland is subjected to pressure. The natural form of the prostate gland is that of a chesnut, divided by a raphe or longitudinal fissure into two lateral lobes. The fissure is much more defined on the inferior than on the superior surface; at the posterior and inferior part of the gland there exists a small process, whcih connects the lateral lobes, and which is sometimes termed the third lobe of the prostate. The prostate gland is remarkable for its liability to undergo enlargement at advanced periods of life; and this complaint is, indeed, very common and scarcely to be looked upon in the light of a disease. The effects of enlargement of the prostate are, however, very important, as it produces an impediment to the passage of the urine, and is by far the most frequent cause of retention of urine in old age. The urethra traverses the prostate gland, but not exactly through its centre, being nearer to the upper than to the under surface; this is termed the prostatic portion of the urethra, and in it the ducts of the vesiculæ seminales and vasa deferentia have their terminations. The urethra, where it passes through the prostate, is subject to a disease which cannot, however, be regarded as an affection of the gland itself; the symptoms of the complaint are—pain at the neck of the bladder, aggravated during micturition, and a degree of difficulty in passing the urine, which sometimes leads to a suspicion of the presence of stricture. If the supposed obstruction be sought for by the bougie, intense pain is experienced as the instrument enters the prostate, and the patient complains of a great aggravation of the symptoms "in coitu:" the latter peculiarity forms the principal diagnostic mark of the disease, which consists in a morbid sensibility of the extremity of the vasa deferentia where they enter the urethra. This affection is produced by enlargement of the extremities of the vasa deferentia, which throw out papillæ-like projections that are extremely sensitive, and form obstructions to the passage of the urine and serum. The caustic bougie is the best remedy for this complaint, to which I believe Lallamand was the first to direct the attention of surgeons. I have two or three times seen it, and recognized it from its seat being in the prostatic portion of the urethra (a part very seldom the subject of stricture), and from the pain in coition, and during the passage of the urine, as well as from the sympathetic tenderness of the testicle itself. The application of caustic proved sufficient to effect a cure in all these cases. The prostate gland is liable to inflammation, which is very often induced by the extension of gonorrhœal inflammation; it is indicated by a sense of pain in the perineum, extending into the region of the rectum, the pain being greatly aggravated while the patient is in the sitting posture. The bladder becomes affected, if immediate relief be not afforded to the inflamed gland, and even retention of urine often supervenes. The treatment consists in the application of leeches to the perineum, cupping in the loins, keeping the patient in the recumbent posture, suppositories, the use of diluents, and the removal of accumulated fæces from the large intestines. If such means be employed, the attack generally yields at once; but if they be not sufficiently active, the inflammation may acquire a chronic form, which it will be found extremely difficult to overcome, and which, indeed, frequently leads to abscess and every protracted suffering.

Abscess in the prostate gland.—When an abscess has formed in the prostate, the pain becomes completely changed in its character, being then rather an obtuse throbbing sensation, which is much aggravated during the act of defecation; rigors also supervene, and sometimes the shivering fit is so distinctly intermittent, that the affection is liable to be mistaken for ague. The difficulty in passing the urine is also increased by the formation of matter, and an examination of the prostate gland should now be made per rectum; when it is said fluctuation may sometimes be discovered: I must, however, acknowledge that I could never detect it by this method of investigation. In abscess of the prostate, the catheter must be employed, notwithstanding the pain which its introduction produces, and although an obstruction is felt in passing the instrument through the prostate: the resistance is not similar to that of stricture; moreover, as stricture never occurs at this part, the diagnosis of prostatic abscess becomes comparatively easy. There is another point worthy observation; in abscess, the obstruction returns immediately after the removal of the catheter or bougie, to the same extent as before its introduction: this is not the case with stricture of the urethra. Should the duration of the symptoms be greatly protracted, and the constitution of the patient deteriorated by continued suffering, the abscess should be opened by making a deep incision into the perineum, and then passing a bistoury into the gland to evacuate the matter. In this operation, the urethra should be carefully avoided, so that the matter may pass off by the factitious opening alone. Abscesses in the prostate sometimes burst spontaneously, either into the urethra or rectum, and this is generally indicated, in the case of the former, by the urine being mixed with pus, and by the immediate relief from pain: but when the tumor bursts into the rectum, the only probable sign of the evacuation of the matter would be the complete cessation of all suffering. The opening between the urethra and prostate, formed by the bursting of an abscess, is frequently very difficult to cure, owing to the urine filtering into the prostate, and keeping up a constant irritation: this difficulty may, however, be overcome by the gentle introduction of a catheter, to draw off the water for a few days,—until, indeed, the abscess has granulated. Should there be much difficulty in healing an opening between the rectum and the prostate, owing to the intrusion of the feculent matter into the gland, the division of the sphincter ani seems to be the best means of effecting the cure of the fistula. Sir Benjamin Brodie has recorded some cases of abscess in the prostate gland in children, which occurred in his own practice. I have never met with a case myself, and consider it rather a disease of the adult, than one either of youth or old age.

Ulceration of the prostate gland.—This sometimes results from inflammation, but much more frequently, I believe, from the presence of calculi in the prostate; it is attended by the most excruciating pain, and by occasional bleeding. Caustic is the best remedy for this disease, and may be passed down by a catheter converted into a "port caustique:" in two or three instances in which I have known it to be used, it has been productive of the most beneficial effect.

Calculi in the prostate.—This disease is not very uncommon, but frequently remains unsuspected until a small calculus ulcerates into the urethra, causing retention of urine: sometimes, however, premonitory symptoms present themselves, resembling those already described as attendant upon inflammation of the gland. Some time ago I was sent for to visit a gentleman in Westbourne Terrace, who had been suddenly seized with retention of urine; he told me that he suspected the presence of a stone, as a few days before he had passed a small one during micturition. On introducing a catheter into the urethra, I met with an obstruction, just anterior to the bulb, and I did not attempt to overcome it, on account of the danger of pushing the calculus back into the bladder if it should prove to be one. The symptoms of retention not being very urgent, I ordered a hot bath and a large dose of opium, and four hours after he passed a calculus weighing five grains: it proved, upon analysis, to consist chiefly of phosphate of lime. The formation of stone in the prostate is not, however, always attended by so little inconvenience; the most acute suffering I ever witnessed, and which indeed led ultimately to the death of the patient, was in a case of this kind. The patient was under the care of Sir Astley Cooper, who attempted to remove the calculi from the prostate by means of the scoop, having cut down upon the gland, as in the operation for stone; but as the calculi were contained within the follicles of the gland, so as to be somewhat sacculated, it was found impossible to remove them all, and the suffering of the patient remained unrelieved; indeed, his constitution and mind both at length became so worn by the continual agony, that he put an end to his existence.

Enlargement of the prostate in old age.—This can scarcely be regarded as a disease, but appears to be the result of a change inseparable from old age. It certainly sometimes attacks individuals at comparatively early life, but such persons always manifest unequivocal signs of premature decrepitude. The enlargement seems to be true hypertrophy, as it is rarely attended by any alteration of texture, although I have in some few cases found the gland softer, and in others harder, than natural. The symptoms in enlargement of the prostate gland depend with respect to their urgency upon the size it has acquired; they are, sense of weight in the perineum, intolerance of pressure from the hardness of a seat; difficulty in passing the urine, and also in voiding the fæces, which will be found flattened by the encroachment of the hypertrophied gland on the rectum. At this stage of the complaint, retention of urine occasionally supervenes, rendering the introduction of a catheter necessary. This operation should be performed with the utmost gentleness, as the slightest flow of blood would cause decomposition of the urine, and consequent aggravation of all the symptoms. An elastic gum catheter should always be used for drawing off the water, and, if possible, it should be introduced without a stilette; leeches should be applied to the perineum; the rectum emptied by means of enemata; and suppositories, recumbent position, and soothing remedies, employed. I have also found colchicum of great use in such cases, and believe that its beneficial influence arises from the circumstance that this disease frequently attacks subjects of a gouty diathesis. I usually prescribe the colchicum in the following form:—℞ Ext. Colchici Acet. gr. j.; Pil. Hydrarg. gr. j.; Pulv. Doveri, gr. v.; Ext. Colocynth. Co. gr. iij. M. Ft. pil. bis quotidie sumenda.

As the complaint takes its origin from a particular epoch of life, nothing more than relief of the symptoms can be expected; but nevertheless, by a judicious system of diet, by keeping the patient from excess of bodily exertion, and from vicissitudes of temperature, his life, which was scarcely supportable under the violent symptoms of the disease, is rendered comparatively free from pain and inconvenience.

It does not always happen that the whole of the prostate gland becomes hypertrophied in old age; but very frequently the third lobe only is affected, or perhaps it may more properly be said that a new development arises; for in a state of health, at the adult period, the third lobe is scarcely perceptible. When this third lobe enlarges, it presses the inferior region of the bladder or "trigone" upwards above the commencement of the urethra in the bladder, preventing the evacuation of the urine, and consequently producing retention. Nor is this the only inconvenience; for, by the raising of the bladder immediately behind the prostate, a kind of reservoir is established below the entrance to the urethra; and, in the effort to empty the bladder, a portion of its contents is always left: this becomes specifically heavier than the newly-secreted urine, which does not intermix with it; and, after a time, the retained urine undergoes decomposition, which gives rise to very urgent symptoms—such as frequent desire to make water, tenesmus, deep-seated pain in the perineum, and liability to positive retention. It is quite clear that these symptoms cannot be removed while the exciting cause remains; the fœtid urine must therefore be immediately drawn off by means of the catheter. In such cases there is, however, a difficulty in passing the instrument, as the enlarged lobe offers some degree of obstruction to its passage, and this is only to be overcome by employing a longer and larger catheter than that usually made use of: this instrument is generally termed the prostatic catheter. The mode of introducing the catheter in such cases is similar to that in ordinary practice, until it arrives at the point of obstruction, when the penis and instrument are both to be drawn forwards for the purpose of straightening the urethra; the handle of the catheter is then to be considerably depressed, so as to tilt up the point, and it is then pressed onwards into the bladder. But, having effected this, the urine would only be drawn off to the level of the urethra, and the heavier fluid would still remain, unless further means were employed for its removal. The cleansing of the bladder may be effected by injecting it with tepid water, by means of a syringe; and an improved instrument has been invented for this purpose, by which a continuous current is kept, the same stroke of the piston removing one quantity, and supplying a fresh one. Constitutional remedies must not be neglected; and, when an alkaline state of the urine exists, medicines of an acid character are generally indicated. Among the most efficacious of these will be found the following:—℞ Nitro-Hydrochlor. Acid. gtt. iij.; Syr. Papav. ʒiij.; Inf. Colomb. ℥iss. M. Ft. haustus ter quotidie sumendus. In addition to this, an opiate suppository at bedtime will often be found of great advantage; but if an acid condition of the urine be not thus restored, Liq. Potassæ will frequently be found capable of re-establishing the normal acid state: this anomaly has been accounted for by Dr. G. O. Rees, on the supposition that the alkali renders the secreted urine less irritating to the mucous membrane of the bladder, and preventing the secretion of alkaline mucus, for which the urine had acquired its abundant preponderance of alkali.

I must again, gentlemen, direct your attention to the propriety of employing the prostatic catheter in cases of enlarged prostate; for I have frequently known great mischief arise from a perseverance in the attempt to relieve a patient by the ordinary instrument.

Not many weeks ago I was sent for to see a patient who was said by his medical attendant to be suffering from suppression of urine. When I saw the patient, I found that he had an enormously distended bladder, and stated at once my opinion that he was suffering from retention, and not suppression. The surgeon said, in reply, "I will prove it to be suppression;" and he accordingly passed a catheter to its full extent, without being able to draw off a drop of urine. I then sent for a case of catheters, introduced the prostatic catheter, and instantly drew off nearly three pints of highly ammoniacal and fœtid urine. The treatment I have previously described above was adopted in this case; and, although for some days the patient could not voluntarily evacuate the urine, he now only requires the occasional washing out of the bladder. In passing the prostatic catheter (as, indeed, must be the case with all others), the utmost gentleness and caution is requisite; for, as I have mentioned before, the least flow of blood, owing to its reaction upon the urine, increases all the symptoms in a tenfold degree.

I have on two or three occasions met with a disease of the prostate gland which I do not remember to have seen described by any author. A short recital of the cases themselves will perhaps be the best means of describing to you the symptoms of the complaint:—

Thomas Harriet, aged 70, was admitted into Guy's Hospital, suffering from great difficulty in micturition, and considerable pain in the rectum and region of the bladder. I attributed the symptoms to enlargement of the prostate, and proceeded to pass the prostatic catheter. When I had introduced the instrument as far as the point of obstruction, upon depressing the handle to overcome the impediment, the catheter passed on, giving at the time a sensation to the hand as if the instrument had been forced through a piece of rotten sponge. A large quantity of water was drawn off, the latter portion of which was mixed with much blood, and the bladder became again quickly distended, indicating that the bleeding still continued. The next day, the patient not having passed any water, the catheter was again employed, but nothing but a few clots of blood came away; so that I contemplated the necessity of laying open the bladder to remove its contents. I, however, thought it best first to attempt to wash out the bladder by injecting tepid water; and I thus succeeded in bringing away so much blood as materially to diminish the distension. The urgency of the symptoms, however, increased, and it was necessary to pass the instrument very frequently, producing an almost constant flow of blood; consequently, in a few days, the patient sunk from complete exhaustion. Upon a post-mortem examination, the bladder was found distended, presenting an irregular figure, owing to a considerable projection having formed near its fundus on the right side, and one still larger extending between the bladder and rectum. The bladder was opened, and its parietes were found much thickened, and the lining membrane of a dark colour: the most remarkable appearance was, however, presented at the prostate gland; the middle lobe was enlarged, and nearly of the size of a pullet's egg, of a dark wine-lees colour, a very soft texture, and, indeed, converted into a fungoid mass, from which the hæmorrhage had proceeded. The irregularities on the outside of the bladder proved to be diverticula formed by the projection of the mucous membrane between the fibres of its muscular coating.

William Johnston, aged 72, came into Guy's Hospital in 1836: he was suffering from retention of urine, and stated that two days before his admission he had been much alarmed by passing a considerable quantity of blood by the urethra, having never previously experienced any derangement of the urinary organs. This spontaneous effusion of blood was followed by great difficulty in making water, attended, however, by a constant desire to do so, and by a great effort small quantities of bloody urine were expelled. A large catheter was easily passed into the bladder, and a pint of bloody urine withdrawn; but this afforded only temporary relief, as the retention soon returned, so that the use of the catheter had to be repeated. This produced an aggravation of the symptoms: lead and opium were prescribed, and acids also, but only at intervals, so as not to interfere with the action of the lead; all proved, however, unavailing to check the disease, and in a few days the patient died. Upon examination after death, the bladder was found distended, and connected by old adhesions to the parietes of the abdomen and folds of the small intestines. The lining membrane seemed to have been in great measure removed, and was replaced by a loose flocculent cellular membrane, which was of a very dark colour: the prostate somewhat enlarged, the third lobe being of a globular form, and projected into the bladder. The orifice of the right ureter was free, but immediately on the opening of the left was seated a hemispherical fungus of the size of a large chesnut, attached at the centre of its flat surface by a short peduncular process: the tumor was highly vascular, and was evidently the source of the hæmorrhage. The left ureter and pelvis of the left kidney were very much distended.

The diagnosis of malignant disease in such cases must, I think, always be tolerably clear from the tendency to bleeding, and perhaps from the cachectic manipulations of the patient, if much confidence can be placed in what is termed the aspect of malignant diathesis.

Diseases of the bladder.

As the bladder is only an excretory organ, it is subject to few diseases that do not take their origin from interrupton to the due evacuation of the urine. It is true that the organization of the bladder is similar to that of the other structures of the animal system, and therefore it must sometimes be exposed to undergo deterioration from the diminished power of its capillaries to eliminate from the blood those constituents which are essential to maintain the integrity of its tissues. Disease of the bladder most frequently arises as a consequence of those morbid conditions of the urethra and prostate gland just described; the exciting cause being retention of the urine, which produces decomposition of that fluid, and subsequent inflammation of the mucous membrane, muscular coat, or peritoneal covering of the bladder. A very frequent result of over-distension of the bladder is paralysis, which also becomes a source of retention, as the bladder is no longer capable of contracting upon its contents.

Paralysis of the bladder is supposed to proceed from excessive distension of its muscular coat, so that its vital irritability is impaired, and where the distension is very great, completely destroyed. I believe, however, that mere mechanical distension alone is not sufficient to produce paralysis, without the concurrent influence of constitutional nervous derangement. The following case is an illustration of this:—I was consulted by a patient who had had retention of urine four days from stricture of the urethra. With some difficulty I passed a catheter, and drew off upwards of nine pints of urine; the bladder, however, still retained its power of contraction: the urine thus drawn off was albuminous and acid, but the subsequent secretion possessed none of all the specific urinous principles. Paralysis of the bladder may also occur in consequence of disease or injury of the spinal marrow; in such cases the paralysis is much more serious in character than when it results from over-distension. And, indeed, the affection of the bladder thus induced, is not unfrequently the cause of death, as the morbid changes that are produced in the secretions of its mucous membrane, react upon the urine, set free ammonia, which is a very powerful irritant, inflaming the parts, and giving rise to so much constitutional disturbance as ultimately to destroy the life of the patient.

The muscular coat of the bladder is subject to become thickened or hypertrophied, which necessarily diminishes the capacity of the organ: this effect results from obstruction to the passage of the urine—as stricture, enlargement of the prostate, or the presence of calculus. The liability to this condition should always be remembered by the surgeon, wherever he considers it necessary to puncture the bladder for the relief of insuperable retention; for if the bladder be in such a state, it should not be opened either through the rectum or above the pubes, but by an incision in the perineum, as in consequence of the great thickness of its parietes, principally resulting from the immediate action to which its muscular coat has been subjected, it is quite clear that the retention must have resulted from obstruction in the urethra, and not from any inability of the bladder to evacuate its contents, so that the division of the stricture in perineo is peremptorily indicated.

Inflammation of the bladder sometimes arises from an extension of gonorrhœal inflammation along the urethra: it is generally produced by the sudden suppression of gonorrhœal discharge. This affection is indicated by what is termed irritable bladder, where there is frequent desire to pass the water, but very little is voided at each effort: more or less constitutional disturbance, and a constipated state of the bowels are also usually present.

The treatment consists in the administration of calomel and opium, hot-bath, enemata, diluents, and keeping the patient in the recumbent position. Sometimes, however, it will be found very difficult to subdue the symptoms. Injections of a solution of opium into the bladder are recommended, but I have invariably found them productive of mischief rather than otherwise. I have, however, known great benefit to be derived from cupping in the loins, and the application over the pubes; and in one case the patient was rapidly relieved by the injection of ice-cold water into the rectum.

Inflammation of the mucous membrane of the bladder may go on to ulceration; and in post-mortem examinations I have frequently met instances in which the whole of the mucous coating of the bladder had been removed by this inflammatory action. The symptoms attending this disease are of the most urgent character, the pain is excessive, and but little relief is afforded by the evacuation of the urine; for the mere contraction of the bladder necessary to micturition produces great irritation in the inflamed mucous membrane.

Weak solutions of nitrate of silver have been recommended in such cases, but I believe that injection of any kind seldom produces a good effect when the bladder is injured. I consider opiates and suppositories the best means of treatment, but, under any circumstances, ulceration of the bladder generally proves fatal. In obstinate cases of retention of urine from permanent stricture, even sloughing of the mucous membrane may sometimes result, and the liability to

this condition from protracted distension, teaches the necessity for the early operation of puncturing to relieve the bladder. Fungoid diseases of the bladder are very rare; I have, however, described a case of this kind of complaint, when speaking of disease of the prostate gland.

Original Communications.

ON THE
USE OF EMETICS IN CHOLERA.

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No. III.

The especial object of my last communication was to point out the potent influence of the act of vomiting, when this is forcibly performed, in counteracting the congestion and stagnation of the blood in the internal viscera, more especially in those organs connected with the portal circulation, and thereby in equalising its distribution over every part of the body. This position I illustrated by appealing to the great utility of emetics in the cold stage of concentrated intermittent and remittent fevers, and also in the terrible prostration and collapse that are apt to ensue upon the bites of poisonous reptiles and insects. It is a curious circumstance, and one not undeserving of notice here, that an intense and overwhelming emotion of the mind, especially that of sudden grief or horror, will give rise to a train of symptoms very similar to what are induced by these morbific agencies; and it would not be difficult to shew that the *immediate* effects of each and all of them upon the nervous system, and upon the circulation of the blood, are pretty nearly the same. Without, however, saying more upon this subject at present, I shall merely remark, in passing, that there is no remedy so prompt and efficient in recovering a person from the death-like pallor of extreme fear as an emetic: indeed, nature herself suggests the remedy by the ineffectual efforts at vomiting that are often observed in such cases. Dr. Hartley Kennedy narrates a very apposite case which occurred in a man who fancied that he had been wounded by a poisonous snake; he seemed to be in the very agonies of death—cold, prostrate, and convulsed. "I administered an emetic," says Dr. K., "with abundance of hot water. He began to get warm as soon as the emetic acted," and in a very short time he had quite recovered. Dr. K. concludes his account by the very just remark, that "an emetic in (such) collapse is the best stimulus to the system, and preferable to alcohol and the preparations of ammonia." But we now proceed to the more immediate theme of our discourse—the treatment of malignant cholera; and for this purpose let us take a rapid glance at its most prominent and characteristic symptoms.

How vividly do these proclaim the overwhelming congestion of dark blood in the internal organs, and the utter inability of the heart and vessels to move it onwards! Not to mention the livid hue and deadly coldness of the surface; the shrunk and sharpened features; the wrinkled, shrivelled skin; the sunken eye; the tongue chilled and flabby, and like a bit of dead flesh; the pulse thread-like, and scarcely to be felt; consider for a moment the state of the breathing. Each act of inspiration appears to be effected by an immense and distressing effort of the chest, although but little air is received into the lungs; while the acts of expiration are quick and convulsive, the lips and cheeks sometimes puffing out and flapping, with a white froth between them, as in apoplexy. For the same reason —the insufficient supply of air in the lungs—the voice is nearly gone, and the patient speaks but in a whisper (*vox cholerica*), and only by a word at a time. Then the intolerable weight and anguish that he feels around his heart, and that makes him incessantly toss from side to side, struggling for breath, and often laying his hand on the pit of his stomach and his chest, to point out the seat of his chief distress! The suspension of the urinary secretion, as well as that of the bile, is doubtless the effect of the remora in the circulation; and perhaps even the cramps and muscular spasms may, in part at least, be regarded as but the vain efforts of the system to prevent the utter stagnation of the blood in the veins; for we know that, in the state of health, the circulation in these vessels is very powerfully aided and accelerated by the contraction of the muscles near to and around them. Everything, in short, proclaims with an unmistakeable emphasis, that the real and essential feature or character of the disease is a poisoned state of the circulating fluid, and that the primary and essential action of the poison is to paralyse or benumb the living powers that move it. The great and leading principle, therefore, in the treatment of malignant cholera, is to counteract this fatally sedative power; to prevent the consequent stagnation of the blood, and thereby to maintain the vital energies, in order to give time to nature to relieve herself from the pernicious effects of the venom. Hence the important prognostic precept, that as long as there is evidence of the blood moving, however feebly, in the vessels, there is good ground for not auguring the very worst, appalling although the symptoms may be; "a thread of pulse, however small, is almost always felt at the wrist, where recovery from the blue or cold stage is to be expected."[*]

And here I would particularly call the attention of the reader to the undue importance that is apt to be attached to the vomiting and purging in this extraordinary malady; as if the violence or excess of these evacuations constituted its chief or only danger, and as if the main object of the physician in its treatment should be to strive to arrest their continuance. Not so. They are but the symptoms or evidences of an already existing and formidable evil; and this very evil, viz. the visceral congestion, and the beginning arrest or stagnation of the circulation, may prove fatal without the concomitance of either vomiting or purging. Such is often—nay, indeed, generally—the case in the very worst cases of the disease, more especially during those terribly concentrated outbreaks of the pestilence that are occasionally met with in the East Indies, and of which the one at Kurrachee, in Scinde, in 1846, forms the most recent, and one of the most remarkable examples. In very many of the cases, there was but little, if any, evacuation upwards or downwards. The patient was struck down as by a *coup de soleil*, or as if by the action of a virulent poison; sudden prostration and collapse ensued, and he died in from two to four hours after the seizure. "Many men," says Mr. Thom, in his most interesting report,[*] "died without vomiting or purging, or spasms! collapse and profuse sweating were the only two constant and invariable symptoms. Of course, under the head of collapse is embraced the loss of pulse, obstructed circulation, and flaccid vessels." Even in the cases of a somewhat less aggravated description, Mr. Thom distinctly assures us that "the collapse preceded the vomiting and purging;" the primary symptoms being a "sudden faintness, prostration of strength, restlessness and anxiety, accompanied by vertigo, deafness, loss of vision, alteration or hollowness of the voice, weak, slow, and irregular respirations, performed in convulsive starts, and with very little dilatation of the chest to receive any quantity of fresh air,"—all indicating that the blood had left the surface, and was congested in the heart and great vessels within.

I need not say that these remarks of Mr. Thom are only the repetition of what has been over and over again observed and stated by previous writers on this disease. The Madras Report, which was published in 1824, and is one of the most instructive documents on the disease that has ever appeared, expressly says, that "in certain epidemic visitations, scarcely an individual has manifested this symptom (*vomiting*);" that there are "innumerable instances of death ensuing after one or two watery stools, and that collapse has come on before any evacuation by stool has taken place;" and that (I particularly invite the reader's attention to this remark) "of all the symptoms of cholera, none is so invariably present, none indeed so truly essential and diagnostic, as *the immediate sinking of the circulation*." To this same effect, Mr. Orton, who has written a very able work on the subject, says, when speaking of the symptoms,—"I have purposely placed first *the rapid depression of the vital powers*, because it seemed to me the most essential part of the disease: the vomiting and purging are but secondary, compared to it. Many patients died, having vomited and purged but two or three times, which, under no circumstances, could be sufficient to exhaust life; and in some of the worst cases which came under my observation, there was no vomiting at all." The very absence of vomiting has been pointed out, and justly so, by some writers, as one of the most formidable of all symptoms. "This is a most alarming state," says the Madras report, "and, in comparison of which, the utmost irritability, or almost any other imaginable condition of the part, may be held to be of little danger;" and Mr. M'Cabe, in his report to the Bombay board, did not hesitate to state that he looked upon the continuance or return of the irritability of the stomach as a favourable, rather than an unfavourable, symptom.

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[*] Report on the Cholera, by Sir W. Russell and Sir D. Barry, dated Petersburgh, July 1831.

[*] Parliamentary Paper, ordered to be printed March 21, 1848.

But it is unnecessary to multiply authorities on a point that has been recognised by all experienced observers both in India and in Europe, viz. that the danger of an attack of cholera is by no means commensurate with the amount of purging and vomiting that may be present. Sir W. Russell and Sir D. Barry, in the report already quoted, very instructively observe that in the less severe cases the pulse is not wholly extinguished, though much reduced in volume; the respiration is less embarrassed; the oppression and anguish at the chest are not so overwhelming, *although the vomiting and purging, and the cramps, may have been more intense*,"—an observation that naturally suggests the important practical precept, that our treatment should be directed with the view rather of relieving the first series of symptoms enumerated, than of suddenly arresting the second.

In making these remarks, let it not be imagined that I do not recognise the pernicious effects that inevitably result from excessive evacuations upwards and downwards, and this, too, of the very serum of the blood itself. Of course, such discharges must tend to vitiate the crasis of the vital fluid, rendering it less fluid and mobile, and thus aggravating more and more its congestion and incipient stagnation in the internal vessels. All that I seek to establish is that the mere arrest of the evacuations will, in very many instances, not suffice to recover the patient, unless the power of the circulation can be sustained at the same time, so that the mass of the blood may be more equally distributed to every part of the body. As long as the visceral engorgement continues, and the respiratory and circulatory movements are so feebly and ineffectively exercised that they cannot keep up the current of the vital fluid through the system, but little progress has been made to recovery, however completely the discharges have been put a stop to: indeed, these would generally subside of themselves if once the blood flowed freely and equally in the vessels.

I am the more anxious to urge these considerations on the reader's attention, as we not unfrequently meet with such statements as that "the symptoms are to be regarded as the result of the draining of the serum from the system," and that the disease may be said to be "a serous hæmorrhage from the bowels," &c.; and, even when such doctrines are not directly taught, it cannot be denied that the arrest of the evacuations is very frequently laid down as the chief curative indication to be attended to.

The view now taken of the pathology of malignant cholera is in accordance with that which Mr. Thom, and indeed almost all the most experienced observers in the East Indies, have expressed in their writings. Mr. Thom, for example, after pointing out that the vomiting and purging are to be regarded as "evidences of a salutary effort of Nature towards restoration," although these efforts are, "generally speaking, ill regulated, imperfect, or become uncontrollable after they have effected their object" of relieving the internal congestion,—proceeds to lay down the indications of treatment in the following order:—1, to correct the altered state of the blood; 2, to relieve congestion of the (visceral) vascular system; 3, to remove the collapse and diminished nervous energy; 4, to control the evacuations, and, when these have been profuse, to replenish the empty and flaccid vessels with simple fluid; and 5, to counteract the subsequent or secondary effects of the attack. This line of practice is evidently based upon the pathological view which he has taken of the disease, the proximate cause of which he considers to be "a deterioration of the blood, and congestion of the whole (internal) vascular system."

And here, before I proceed to adduce

some authorities in favour of the practice of employing emetics in the commencement of malignant cholera, I beg the reader particularly to bear in mind that there is a very marked difference between the spontaneous vomiting which occurs in the disease, and this act when it is induced by the operation of medicine. There is comparatively little or no retching or straining in the former: the process is one rather of simple eructation, like to the gushings out or gulpings from a vessel overflowing to fulness, than the forcible rejection of a living organ's contents by the strong and convulsive contraction of its parietes and of other consentaneous muscles. This important distinction has not been sufficiently recognised by some of the best writers on the malady, and yet it is one that cannot be too strongly impressed on the minds of those who have not had an opportunity of studying it by the bedside of the sick for themselves. How suggestive is the observation in the Madras Report!—"There is an ineffectual straining to vomit, and a spouting up of any fluid which is swallowed, as if by an effort of the lower part of the œsophagus, rather than of the stomach itself. When *full vomiting* in these cases has been *effected by medicine, relief follows*: not, however, in all probability, by the mere evacuation of the gastric contents, but as a consequence of that change in the condition of the patient which must necessarily be established before the stomach can resume the action of vomiting." And Dr. M'Gregor, in his recent work on the Diseases of the North-western Provinces of India, makes a very similar remark:—"In this disease, vomiting is described as one of the symptoms: the action is not, however, vomiting, but an ineffectual attempt at the latter; and when the stomach is able to act freely and remove its contents, the symptoms of cholera disappear, and the congestion of the biliary system, or, in other words, the essential cause of the disease, is removed; and, instead of the white congee stools, totally divested of bile or fæculent matter, those containing both are speedily voided, and the body is thus restored to a state of health, and that, too, from a disease which kills in a few hours."

Let me request the reader to keep these remarks steadily in view while he peruses the following memoranda respecting the practice which I wish to recommend to his notice—a practice that is founded on the therapeutic indications of counteracting internal congestion, by promoting a more equable distribution of the blood, and of sustaining the circulation, until Nature is enabled to relieve herself from the effects of the poison that has entered the system.

Dr. H. Kennedy makes repeated mention, in his interesting work, of the benefit which he had often occasion to observe from the use of emetics in the early treatment of cholera, in combination generally with blood-letting, and followed by a powerful cathartic, castor oil and laudanum being that which he usually preferred. "If blood can be obtained," says he, "hot water is a sufficient stimulus to excite the stomach and bowels to the *salutary operations* required (this is spoken of the vomiting and purging when absent or deficient). If blood cannot be extracted, and the patient is sinking with or without much vomiting and purging, the tartarized antimony is decidedly the best remedy, and it should be worked off with infusion of chamomile. Finally, when the surgeon finds the patient sunk and exhausted, and straining and vomiting, notwithstanding the exhibition of opium and the application of a blister (to the epigastrium), we must keep in view that the crisis is fast approaching when the stomach itself will be paralysed and incapable of being acted on by any stimulus, in the same manner as the liver probably, and certainly the urinary bladder, appear from the first to suffer the same collapse as benumbs and chills the extremities: under such apprehension, an antimonial emetic is decidedly the best resource. . . . . . . Mr. England seems to have tried this remedy when every other hope had failed; and the result seems to have been as unexpected as it was fortunate. Mr. Wilson states that the native practice in Malwah was to drench the patient with large draughts of salt and water: this must be attended with the double effect of emetic and purge; and, administered at the outset, would meet the indication of the first stage of the disease."—p. 244-5.

Dr. Searle, whose experience in cholera has been most extensive, both in the East Indies and in Europe, and who has published largely upon the disease, thus expresses his sentiments on the use of emetics, in his recent work, entitled "Cholera, Dysentery, and Fever, &c.":—"In order to increase the circulation throughout the liver, and remove the stagnant blood from the vessels of the stomach and bowels, increasing thereby the absorption of the calomel, and withal clearing the stomach that it may be brought effectually into contact with the surface of the stomach for absorption, an emetic is another very useful remedy. Nature, moreover, points out this to us by the vomiting that so generally attends the disease; and, in further proof of the utility of vomiting, we have the fact that emetics, by some practitioners in India, as well as by some of the natives of that country, have been exclusively employed in the treatment of this disease, and with very considerable success. We have, in addition, the testimony of the Governor of Scinde, who, in a letter to a friend, mentions that, at Kurrachee, 'some were cured, as they imagined, by constantly drinking cold water: *it first produced vomiting, and finally, persevered in, a cure.*' Accordingly, it is my advice. that the treatment, in all cases, should commence with an emetic, combined with a due proportion of calomel."—p. 52-3. Dr. Searle afterwards speaks favourably of common salt for the purpose, in repeated doses, "until it operates effectually as an emetic."

Ths following advice was given by Sir W. Russell and Sir D. Barry, in their official report upon the disease, as witnessed by them in Russia:—"Let the patient be immediately placed between warm blankets; and, should no medical person be at hand, let two table-spoonfuls of common kitchen salt, dissolved in six ounces of warm water, be given immediately, and at once if it be an adult." And, after recommending the application of dry heat along the course of the spine, and to the pit of the stomach, it is added—"energetic, complete vomiting, will probably be produced by the salt, and, perhaps, bilious purging, with tenesmus. Should a medical man be on the spot, a moderate bleeding, if it can be obtained, would be desirable, previously to, or immediately after the administration of, the salt, or of any other emetic which may be preferred."

No writer, as far as I know, has better explained the rationale of the practice in question, and the object to be sought for in adopting it, than that excellent observer, the late Dr. James Johnson. "The first internal remedy which I propose," says he, "both in aid and in imitation of Nature, is a stimulant emetic, as infusion of mustard seed, or, what perhaps would be better, the sulphate of zinc. I propose this from a conviction, founded on observation, that of all the means which nature or art can bring into operation, the act of *full vomiting* is the most powerful in driving the blood from the trunks to the capillaries, from the internal organs to the periphery of the body. It is, also, the most universal excitant of secretion [of excretion too, G. M.] in every glandular structure of the living machine. Nausea and retching are quite different in their effects from the operation of full vomiting. Nausea and retching depress the powers of the heart and nervous system, and prevent the blood from flowing to the surface; full vomiting impels the circulation with such force into the superficial veins, that it is extremely difficult to stop the flow of blood from the orifice of a vein during vomiting." . . . . . "It is but justice to state, that Mr. Boyle proposed and practised *full vomiting* in the epidemic cholera ten years ago; and I have the very best authority for affirming, that this practice, when it was pursued on the continent, was eminently beneficial." With respect to bleeding, Dr. Johnson thought well of it, at least in the young and previously healthy, either cotemporaneously with, or subsequently to, the use of stimulant emetics, and for the twofold object:—*first*, to relieve the heart and internal organs from a portion of that deluge of black blood in which they may be said to be drowning; and *secondly*, to turn, as it were, the tide of the circulation from the centre to the surface of the body.

Dr. Copland, although he does not formally recommend the use of emetics at the commencement of the disease, yet very distinctly recognises the good effects of induced vomiting in its treatment, as will appear from the following remarks:—"If the astringents chiefly confided in, more especially the sulphate of zinc, occasion or increase vomiting, the circumstance is not to be regretted. In some cases it may even be promoted, with the view of equalising the circulation, and overcoming visceral congestion;" and, after alluding to the employment of venesection under certain circumstances, he remarks—"while the mass (of blood) to be moved is thus reduced, care must be taken to rouse the moving power by a judicious administration of stimulants, of which full vomiting, excited by the means already noticed, hot epithems and fomentations on the abdomen, and frictions with hot liniments or warm cloths, are among the most efficacious."—*Dictionary*, vol. iii. p. 131.

Dr. M'Gregor, to whom reference has already been made, and who is regarded in the East as a most successful practitioner, speaks thus of emetics in the treatment of cholera:—"Emetics, particularly tartar emetic and ipecacuan, have been extolled; and certainly the former medicine has been found, in many instances, capable of removing cholera, *when free vomiting could be induced by persevering in its use.* Ipecacuan, in sporadic cases, is often useful in arresting the disease." The remark as to the successful effects of tartar emetic, "persevered in until free vomiting has taken place," is repeated in a subsequent passage of his work. Dr. M'Gregor's favourite remedy, however, is croton oil, in very large doses (five drops), combined with opium, and repeated at short intervals, "until the symptoms subside, and *free vomiting ensues*, when the cold clammy sweat becomes warm and moist." The medicine he regards as a most powerful anti-congestive remedy, by the vomiting and purging which the croton oil produces, while the opium serves to soothe the nervous system. At the same time, and with the same view, he employs saline turpentine enemata, and the application of blisters or turpentine epithems to the epigastrium. By the early and diligent use of these various principal means, all calculated to remove the internal congestion, to promote the expulsion of the bile from the gall bladder (which he says is uniformly distended with it, but unable to expel its contents), and to allay pain and spasm, he has obtained, he assures us, very great success.

In the same journal,[*] which contains several papers by Dr. M'Gregor on the subject, is a communication from Dr. Jephson of the treatment which he pursued with most success at Sukkur, in Scinde, in 1840. He tells us, that after trying ineffectually the ordinary remedies—stimulants, calomel and opium, sinapisms, &c.—he determined to employ the same treatment that is usually followed in ague, being convinced that the two diseases were allied to each other,—alike in their origin and symptoms. Acting upon this impression, he had recourse to the exhibition of emetics and neutral salts, "modified and combined with opium, and stimulants in some of the stages." The results were highly favourable. His usual formula was a mixture consisting of an ounce of Epsom salts, two grains of tartar emetic, and eight ounces of water: the dose, one ounce every half hour. After several doses, the vomiting and purging often entirely ceased. The use of the mixture was sometimes preceded by an ipecacuan emetic. One or two large doses of calomel, effervescing draughts, sinapisms, and turpentine epithems to the abdomen, were the adjuvants that seemed to be most serviceable. Quinine was generally given after the cholera symptoms had subsided.

Having already occupied so much space with the present communication, I must defer any further illustrations of the subject for another opportunity.

London, Fitzroy Square,
24th Nov. 1848.

ROYAL COLLEGE OF SURGEONS.

The following gentlemen were admitted members on December 1, 1848:—A. Brookes—R. Senior—J. J. A. Dirham—T. Jeston—C. W. Whitby—J. Russell—T. Hughes—R. T. E. Cooke—J. Duff—H. Potter—P. J. Elborough.

APOTHECARIES' HALL.

Names of Gentlemen who passed their examination in the science and practice of medicine, and received certificates to practise, on Thursday, 30th November, 1848:—Edward Bott, Bromley, Kent—John Edward Elam, Leeds, Yorkshire.

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[*] The Quarterly Medical and Surgical Journal, for the North Western Provinces. Delhi, 1844.

OUTLINES OF MEDICAL PROOF.

By Thomas Mayo, M.D. F.R.S.
Physician to the Infirmary of St. Marylebone.

[Concluded from p. 750.]

In my contributions on the subject of medical proof, I have used an expression which I would willingly cancel, were it not better that the language should remain with its present retractation. I have talked of "filling up these outlines." Now to fill up an outline of such pretensions, and to embrace all the forms of thought bearing upon proof, as implied in this supposition, is an impossibility. Every modification of proof, if carefully looked into, resolves itself into infinite subdivisions, from inquiring into which we are not exempted by their minuteness. For this is unreal. That which is small at one period of the inquiry, is great at another: it enlarges under the microscope of thought, and on the discovery of new facts. Hygienic and medical principles, which are now scarcely nascent, will eventually be of the same dimensions with those on which we at present act, and the laws of experiment and observation will be modified in relation to their new subject-matter. The profitable way of conducting an inquiry thus continuous and infinite, would be through successive instalments. Mr. Green has opened the whole subject. I have taken it up where it was left by him, and leave it in the full consciousness of its inexhaustible character.

But there are some considerations in reference to future inquiries into medical proof which I am desirous to record. The principles which *I* have laid down, are drawn from, or have been illustrated from, normal medicine. But the deviations from them, and in some cases their application, is susceptible of illustration from other sources. Those pursuits, which we term quackery, would afford an ample field for speculation on the use and abuse of reasoning, particularly in regard to gratuitous and *empirical* hypothesis. In their *present* state and shape, unrecognised *as they* are by the great body of *our profession* and students, I should *have failed* to obtain attention *to any illustration* or application that I *might have* drawn from them. The normal body of medical practitioners must have vouchsafed somewhat more inquiry into them than has yet been given, before such illustrations could be rendered intelligible.

Do these abnormal pursuits of medicine deserve such an inquiry? or do the public interests demand it? I answer this question unhesitatingly in the affirmative, at least in reference to those so-called irregular pursuits of medicine, which are most prevalent in the present day.

We have supposed, in the previous speculations, that a certain curriculum both of antecedent and professional education should be required of the medical student. It is not inconsistent with this supposition, that a class of inquirers should exist, nay, that they should make useful and curious discoveries, without having pursued these curricula. This class of inquirers, together with some others, who have commenced their pursuits in union with us, but have afterwards partially or wholly abandoned the normal system of medicine, constitute that large mass of students and practitioners on whom the term "quack" is contemptuously bestowed.

Now it certainly belongs not to any comparative indolence of the normal body of the profession in the present day, but to the immense stimulus existing everywhere to bold and free inquiry, that this abnormal body (I use the term without any disrespectful intentions), is more numerous at present than it has ever before been known, at least in this country. On this ground alone they must force themselves upon our attention, even though it should be denied (which denial I consider impossible) that their efforts often tend to useful discoveries. But, if this is the case, surely our conduct in relation to them is singularly unfortunate! Our uninquiring opposition to them deprives the public of the advantage derivable to it from their doctrines passing through the ordeal of our scrutiny; and our own cause is damaged in the estimation of the public, by our apparent want of candour in refusing that scrutiny. We strangely overlook the fact, that one of our best grounds for demanding for ourselves privileges or protection from the government of the country, would be our diligence in sifting and in investigating these abnormal views in medicine, which we wish, under some circumstances, to be empowered to restrain. Nor will the hacknied argument be accepted in excuse for such non-performance of a duty, that we are unwilling to give importance to empiricism by making it the subject of our deliberate inquiry. There are cases in which the refusing inquiry is more readily attributed to prejudice than to contempt.

The subjects to which these remarks are most applicable, are homœopathy, hydropathy, and mesmerism. I shall venture some suggestions in regard to each, in the hope that they may stimulate investigation.

Those circumstances in the homœopathic system, which have most tended to discredit it, and which have naturally indisposed us to inquire farther into it, in spite of its prevalence, are—first, the singular gratuitousness of its hypothesis, both pathological and therapeutical; secondly, the strangeness of the infinitesimal doses; thirdly, the presumptuousness with which it advances exclusive pretensions. For instance, if we admit the demands of homœopathy upon our assent, we must grant, either that venesection, combined with calomel and antimony, does not cure pneumonia, or that this combination of remedies possesses the power of producing pneumonia in a healthy person.

But neither this therapeutical assumption, nor their pathology, which finds a cause for all chronic disease in psora, syphilis, or sychosis, have so much indisposed us to inquire into the claims of homœopathy, or so much excited a derisive feeling, as the intense dilution of their medicines; and yet it is in relation to the effect of these very infinitesimal doses that the attention of the normal body of physicians is most directly applicable to the subject. For here, if we would give our attention, we should find ourselves not involved in *mere* hypothesis, but grappling with asserted facts, and should with certainty be rewarded, by arriving at practical conclusions either negative or affirmative. And let it be remembered that this practical question is of immediate import to society, as these remedies are in course of extensive application, and generally to the exclusion of others.

Now we ought to view this part of the above subject as at that stage of induction through observation which precedes the formation of hypothesis. The antecedent improbability of the facts alleged should prevent our *granting* anything. The bare question to what extent the cure, or the mitigation, or the aggravation of symptoms may follow the exhibition of homœopathic remedies, and whether the dilution of these remedies is real in the extent to which it is asserted, should be the present subject of such an inquiry as I recommend.

Very unfair arguments are sometimes used to satisfy us that the homœopathists may justly be treated with contempt in respect to their facts as well as their reasonings. We are sometimes told that, in truth, they use many remedies in full doses, just as we do. This may somewhat impugn their sincerity or their logic, but it is to the credit of their good sense; and I fear, if allopathists—the nick-name which they give us—perilled the truth of their systems whenever they supported them disingenuously, their edifices would be in a very tottering state.

It is true that the unaided efforts of a College of Physicians might not avail to the obtaining full information on these points; that this might only be attainable through a commission of inquiry in countries in which homœopathic hospitals have been established. Can any kind of scientific object be conceived more deserving of assistance from the public purse than this would be?

With respect to hydropathy, the systematic inquiry to which it has a claim may receive a degree of assistance from pre-admitted and substantiated general principles which I have not allowed in the case of homœopathy. A court of inquiry might in some degree help themselves, in trying the facts brought before them, by the light which Curry has afforded us; but we are furnished with far more important means of distinction between cases to which hydropathy may be deemed appropriate, and those to which it is not, by the principles accessible in Liebig's works. "In Austria," says Dr. Bence Jones,* "a mode of treatment has been revived, which, in those who can endure it, is most beneficial in the diseases which may be included in the uric acid diathesis—as indigestion, bilious complaints, gout, rheumatism, and skin dieases. At Gräffenburg, in Austrian Silesia, under Priessnitz, the action of oxygen is promoted to a most beneficial extent in these diseases, but to a no less disastrous one in the opposite class of diseases, which arise from too much action of oxygen on the body, as in phthisis and scorbutic cachexia. Until Professor Liebig directed attention anew to the action of oxygen on the human body, the causes of success and failure were unknown. At Gräffenburg, which is among the mountains near Frieburg, the greatest possible action of the skin is produced by baths. Large quantities of water are required to be taken. . . . . By these means, the action of oxygen on the body is promoted to a very high degree, and death ensues, if ever the system is no longer able to furnish matter to resist the action of oxygen." The practical cautions suggested in this passage are invaluable, and are, I suspect, in substance greatly neglected. The process of oxidation may give to the ill-selected patient great temporary relief, while it is taking out of him what he cannot afford to lose, as well as what he can. The curious on this subject should visit the hills of Malvern. If calomel had produced the energy, which many of the cachectic patients there exhibit, they would have regarded their own improvement with distrust.

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* On Gravel, Calculus, and Gout, p. 54.

The position of Mesmerism, with respect to the public, demands not jesting and abuse, but very serious consideration. The reality of those phenomena of trance which have been brought to bear upon the treatment of disease, and the removal of physical pain, are undeniable, however disposed we may be to exercise a chronic scepticism with respect to certain other transcendental phenomena of the mesmeric state. With respect, then, to mesmeric therapeutics, beside other questions which would spring out of an inquiry, one question would arise peculiarly appropriate to this subject—namely, whether, a certain measure of beneficial results being conceded to mesmerism, the extent of benefit is commensurate with the contingent mischievousness of the means employed. In reference to this point, I may call the attention of my readers to a case published in the last number of the *Zoist.* It is that of Miss Aglionby, communicated by herself. In that statement it appears to me that "weakness remaining after an attack of fever," which constituted the complaint, is removed by the substitution of a kind of *possession*, which any father, husband, or brother, would consider far more undesirable than the weakness removed by it. Here, as in many other points which I could adduce, or which my reader's imagination may suggest, it should be remembered that the removal of physical evil may be effected by processes ethically objectionable.

Now the public has a right to demand, and to demand of *us*, some answer to the questions, whether the asserted removal of disorders on mesmeric principles has been truly effected —whether the objections above hinted at to their removal on these principles, may be over-ruled—whether, in regard to this latter point, a line can be drawn between legitimate and illegitimate use of the expedients of the science.

For great, indeed, is the curative effect held out by these practitioners, and held out with no slight degree of proof. The talents and high scientific position of Dr. Elliotson are well known. It would be superfluous, and, therefore, impertinent, to say, that his veracity is unimpeachable, but for the unscrupulousness with which charges of insincerity have been brought against professors of mesmerism. Now Dr. Elliotson has recently published a case of cancer, apparently absorbed under mesmeric treatment. Its cancerous nature had been recognized by Mr. Syme, Mr. Samuel Cooper, and Dr. Ashburner as well as by Dr. Elliotson. But in fact, the cases of cure, less marvellous in kind than this of various diseases under mesmeric agency, are too numerous to be put aside without inquiry. They are numerous to an extent which will induce the public to accept the *methodus medendi* with *all* its presumable evils, unless we place it before them after investigation in a harmless form, if such a form can be devised, or convict the whole system of vice or imposture.

Such are the principal subjects, whether originated by unprofessional or professional inquirers, which have been placed out of the pale of normal medicine, as considered to bear the semblance of vice or folly, or imposture; but, in regard to which, the proofs adduceable or adduced in favour of the respective doctrines, ought to be candidly and dispassionately weighed by the ruling medical body. An inquiry of this kind may no doubt terminate only in incertitude. In this case, if the requisite means have been taken to elicit truth, and to secure ourselves against error, we shall at least have done our duty. But it is conceivable, with respect to homœopathy, that as disease can arise from infinitesimal causes, so infinitesmal remedies may sometimes prove sanative: it is conceivable, with respect to mesmerism, that the influence of the trance and of the sympathy may be admitted by us to possess an extent of medical advantage, which may exceed the disadvantage of the peculiar kind of *possession* involved in this treatment. It is, again, not conceivable only, but quite certain, that a careful inquiry will enable us to recognise in hydropathy, not defect only, but great and manifold curative merits.

I have thus endeavoured to point out the roads by which normal inquirers may penetrate into these regions, which are stigmatised by the absurd name of quackery. The occasions on which our interference is desirable must be determined in reference to the merits of the new system, or the extent to which it has possessed itself of public confidence. Such, it appears to me, are the claims of the country upon its recognised medical body. As far as the interests of that body are concerned, it appears to me most unwise that they should forego the character of arbiters implied in their position, as sanctioned and guaranteed by law, in favour of that of rivals and antagonists, whether the subject-matter before them be science or pseudo-science.

MEDICAL APPOINTMENT.

THE Queen has been pleased to appoint Robert Ebenezer Brown, Esq., Doctor of Medicine, to be Colonial Surgeon for her Majesty's forts and settlements on the Gold Coast.

REPORT OF A

CASE OF SUFFOCATION

FROM THE CLOSURE OF THE GLOTTIS BY A PIECE OF MEAT:

With Observations.

By Richard Payne Cotton,

Member of the Royal College of Physicians, London; Assistant-Physician to the Hospital for Consumption and Diseases of the Chest.

A MAID-SERVANT, aged 23, in the family of a well-known surgeon at Kensington, was waiting at dinner, and after removing one of the dishes, ran hastily into the kitchen, in a state of extreme distress, which she was unable to explain otherwise than by pointing to her throat: in a few moments she fell upon the floor struggling violently, and in another minute was dead.

An opening was made with all possible expedition through the crico-thyroid membrane, but the moment when this might have saved her life had unhappily fled. All was conjecture as to the cause of this painful event: the throat was examined without leading to an explanation; on looking into the mouth, nothing but a large amount of saliva and mucus could be seen; and, although there was a suspicion of the real history of the case, nothing could decide it prior to the post-mortem examination.

On the following day, by an order from the coroner, I proceeded to examine the body, when the following appearances presented themselves:—

The face and neck were much congested, and of various shades of blue and purple, and the superficial veins generally distended with very dark blood, whilst the intervening skin was pale and flaccid.

Both the abdominal and thoracic cavities were in a healthy condition, but the organs within them greatly engorged with a dark fluid blood.

On removing the larynx, with the neighbouring parts, a piece of meat, weighing about six drachms, was found firmly wedged between the alæ of the thyroid cartilage, pressing the epiglottis downwards, and the arytenoids forwards, so as completely to close the opening of the glottis; the former was somewhat twisted upon itself in such a way, that whilst one of its lateral margins was pushed downwards upon the posterior surface of the latter, the other was turned upwards, as if from a violent expiratory act, taking place probably as a last effort. The morsel was so firmly pressed forwards beneath the base of the tongue, that had the mouth been opened during the struggles of the patient, it would certainly have escaped notice; and a probang passed down the œsophagus might easily have slipped over it unobserved. The piece of meat was of a triangular shape, and placed with the apex forwards, the base of the triangle measuring two inches and a quarter, which will sufficiently account for it not passing the thyroid cartilage, the width of which, at the commencement of the superior cornua, does not commonly exceed an inch and a half, and is not very readily extended.

Although this case adds to the number of those chiefly interesting from its rarity, it is not without its practical lesson. Where sudden asphyxia occurs under similar circumstances, a recollection of it might lead to suspicion of the cause, and the life of the unfortunate person be preserved.

I think that in most instances it would be found an extremely difficult operation to remove the morsel with the fingers or forceps, and the attempt might increase the spasm, and be the means of losing the few precious moments at our disposal; certainly, in such a case as the present one, it would have been useless, even had the meat been less unfavourably situated, both from the urgency of the symptoms, and the violent struggles of the patient. I believe that laryngotomy or tracheotomy would be the proper practice, and might be performed with the less hesitation from the comparatively little risk attending it, as the opening could be closed very shortly after the real cause of danger had been removed, and which the operation itself might effect by admitting air from beneath, and thus forcing up the epiglottis.

I may add that I regretted the absence of this case from the daily papers, as it might have been a very salutary warning to servants, who are not unfrequently guilty of the practice, in this instance so fatal; and this, as it would appear, from mere habit, and where the necessity for such an act cannot exist. It is an interesting question, whether the presence of foreign bodies lodged in the pharynx or upper part of œsophagus, and pressing more or less upon the larynx or trachea, can produce suffocation by the supervention of spasm.

All the fatal accidents from imperfect deglutition on record, with, perhaps, one exception, have resulted from mechanical closure of the glottis: and as there is abundant evidence that pressure upon the vocal apparatus, produced by tumors, or foreign bodies lodged about the thyroid cartilage, has given rise only to stridulous breathing, far short of threatening suffocation, it may, perhaps, be inferred that, as a general rule, spasmodic action of the glottis, unless caused by a severe amount of obstruction, is insufficient to cause death. The truth can be ascertained only from experience; but the cases hitherto supposed to show that mere spasm may be fatal, are far from conclusive on the point: in that referred to above, and which is recorded in the second vol. of the "Dublin Hospital Reports," although but slight pressure existed upon the trachea, the right subclavian artery, which took an irregular course, was wounded by a piece of bone, and the consequent effusion of blood into the cellular membrane of the neck must have greatly complicated the result. Dangerous spasm would, of course, be less likely to result from tumors, in consequence of their gradual development; and in the case of foreign bodies, much might depend upon their position; if upon, or closely bordering to, the aperture of the glottis, a permanent spasm would be likely to result from the reflex attempt to resist their entrance, similar to what occurs from the presence of irrespirable gases, and in drowning; but if at a lower point, the muscular movements would more probably be of an irregular kind, chiefly directed to their dislodgment, and not so particnlarly to the protection of the glottis. As the matter, however, can be decided only by an examination of cases, and these are, happily, not very common, I considered the present one should be recorded; for, although it does not deny the possibility of spasm, it contributes to the list of the few already known in which such did not produce the fatal result, and may thus afford negative evidence that death in such cases is comparatively rare from that cause.

4, Bolton Street, Piccadilly,
Nov. 1848.

some authorities in favour of the practice of employing emetics in the commencement of malignant cholera, I beg the reader particularly to bear in mind that there is a very marked difference between the spontaneous vomiting which occurs in the disease, and this act when it is induced by the operation of medicine. There is comparatively little or no retching or straining in the former: the process is one rather of simple eructation, like to the gushings out or gulpings from a vessel overflowing to fulness, than the forcible rejection of a living organ's contents by the strong and convulsive contraction of its parietes and of other consentaneous muscles. This important distinction has not been sufficiently recognised by some of the best writers on the malady, and yet it is one that cannot be too strongly impressed on the minds of those who have not had an opportunity of studying it by the bedside of the sick for themselves. How suggestive is the observation in the Madras Report!—"There is an ineffectual straining to vomit, and a spouting up of any fluid which is swallowed, as if by an effort of the lower part of the œsophagus, rather than of the stomach itself. When *full vomiting* in these cases has been *effected by medicine, relief follows:* not, however, in all probability, by the mere evacuation of the gastric contents, but as a consequence of that change in the condition of the patient which must necessarily be established before the stomach can resume the action of vomiting." And Dr. M'Gregor, in his recent work on the Diseases of the North-western Provinces of India, makes a very similar remark:—"In this disease, vomiting is described as one of the symptoms: the action is not, however, vomiting, but an ineffectual attempt at the latter; and when the stomach is able to act freely and remove its contents, the symptoms of cholera disappear, and the congestion of the biliary system, or, in other words, the essential cause of the disease, is removed; and, instead of the white congee stools, totally divested of bile or fæculent matter, those containing both are speedily voided, and the body is thus restored to a state of health, and that, too, from a disease which kills in a few hours."

Let me request the reader to keep these remarks steadily in view while he peruses the following memoranda respecting the practice which I wish to recommend to his notice—a practice that is founded on the therapeutic indications of counteracting internal congestion, by promoting a more equable distribution of the blood, and of sustaining the circulation, until Nature is enabled to relieve herself from the effects of the poison that has entered the system.

Dr. H. Kennedy makes repeated mention, in his interesting work, of the benefit which he had often occasion to observe from the use of emetics in the early treatment of cholera, in combination generally with blood-letting, and followed by a powerful cathartic, castor oil and laudanum being that which he usually preferred. "If blood can be obtained," says he, "hot water is a sufficient stimulus to excite the stomach and bowels to the *salutary operations* required (this is spoken of the vomiting and purging when absent or deficient). If blood cannot be extracted, and the patient is sinking with or without much vomiting and purging, the tartarized antimony is decidedly the best remedy, and it should be worked off with infusion of chamomile. Finally, when the surgeon finds the patient sunk and exhausted, and straining and vomiting, notwithstanding the exhibition of opium and the application of a blister (to the epigastrium), we must keep in view that the crisis is fast approaching when the stomach itself will be paralysed and incapable of being acted on by any stimulus, in the same manner as the liver probably, and certainly the urinary bladder, appear from the first to suffer the same collapse as benumbs and chills the extremities: under such apprehension, an antimonial emetic is decidedly the best resource. . . . . . . Mr. England seems to have tried this remedy when every other hope had failed; and the result seems to have been as unexpected as it was fortunate. Mr. Wilson states that the native practice in Malwah was to drench the patient with large draughts of salt and water: this must be attended with the double effect of emetic and purge; and, administered at the outset, would meet the indication of the first stage of the disease."—p. 244-5.

Dr. Searle, whose experience in cholera has been most extensive, both in the East Indies and in Europe, and who has published largely upon the disease, thus expresses his sentiments on the use of emetics, in his recent work, entitled "Cholera, Dysentery, and Fever, &c.":—"In order to increase the circulation throughout the liver, and remove the stagnant blood from the vessels of the stomach and bowels, increasing thereby the absorption of the calomel, and withal clearing the stomach that it may be brought effectually into contact with the surface of the stomach for absorption, an emetic is another very useful remedy. Nature, moreover, points out this to us by the vomiting that so generally attends the disease; and, in further proof of the utility of vomiting, we have the fact that emetics, by some practitioners in India, as well as by some of the natives of that country, have been exclusively employed in the treatment of this disease, and with very considerable success. We have, in addition, the testimony of the Governor of Scinde, who, in a letter to a friend, mentions that, at Kurrachee, 'some were cured, as they imagined, by constantly drinking cold water: *it first produced vomiting, and finally, persevered in, a cure.*' Accordingly, it is my advice. that the treatment, in all cases, should commence with an emetic, combined with a due proportion of calomel."—p. 52-3. Dr. Searle afterwards speaks favourably of common salt for the purpose, in repeated doses, "until it operates effectually as an emetic."

Ths following advice was given by Sir W. Russell and Sir D. Barry, in their official report upon the disease, as witnessed by them in Russia:—"Let the patient be immediately placed between warm blankets; and, should no medical person be at hand, let two table-spoonfuls of common kitchen salt, dissolved in six ounces of warm water, be given immediately, and at once if it be an adult." And, after recommending the application of dry heat along the course of the spine, and to the pit of the stomach, it is added—"energetic, complete vomiting, will probably be produced by the salt, and, perhaps, bilious purging, with tenesmus. Should a medical man be on the spot, a moderate bleeding, if it can be obtained, would be desirable, previously to, or immediately after the administration of, the salt, or of any other emetic which may be preferred."

No writer, as far as I know, has better explained the rationale of the practice in question, and the object to be sought for in adopting it, than that excellent observer, the late Dr. James Johnson. "The first internal remedy which I propose," says he, "both in aid and in imitation of Nature, is a stimulant emetic, as infusion of mustard seed, or, what perhaps would be better, the sulphate of zinc. I propose this from a conviction, founded on observation, that of all the means which nature or art can bring into operation, the act of *full vomiting* is the most powerful in driving the blood from the trunks to the capillaries, from the internal organs to the periphery of the body. It is, also, the most universal excitant of secretion [of excretion too, G. M.] in every glandular structure of the living machine. Nausea and retching are quite different in their effects from the operation of full vomiting. Nausea and retching depress the powers of the heart and nervous system, and prevent the blood from flowing to the surface; full vomiting impels the circulation with such force into the superficial veins, that it is extremely difficult to stop the flow of blood from the orifice of a vein during vomiting." . . . . . "It is but justice to state, that Mr. Boyle proposed and practised *full vomiting* in the epidemic cholera ten years ago; and I have the very best authority for affirming, that this practice, when it was pursued on the continent, was eminently beneficial." With respect to bleeding, Dr. Johnson thought well of it, at least in the young and previously healthy, either cotemporaneously with, or subsequently to, the use of stimulant emetics, and for the twofold object:—*first*, to relieve the heart and internal organs from a portion of that deluge of black blood in which they may be said to be drowning; and *secondly*, to turn, as it were, the tide of the circulation from the centre to the surface of the body.

Dr. Copland, although he does not formally recommend the use of emetics at the commencement of the disease, yet very distinctly recognises the good effects of induced vomiting in its treatquence of the great variety of printed lists which were laid on the table to be selected by the fellows. The result was, that the list of officers and council proposed by the Council was adopted, with the exception that Mr. Thomas Bell was elected secretary in place of Mr. Grove. The votes for the three gentlemen proposed as secretaries were respectively,—for Mr. Christie, 215; for Mr. Bell, 134; and for Mr. Grove, 108. Mr. Christie and Mr. Bell will, therefore, act as secretaries for the ensuing year, and Physics and Physiology will be equally represented.

The sanitary state of the metropolis during the past week has been such as to admit of a very favourable report. The deaths exceed the autumnal average by 13, zymotic diseases being still more than usually fatal. The total deaths from this class of diseases are not so numerous as in the preceding week, the numbers being respectively 372 to 387. The autumnal weekly average is 270. The deaths from Scarlatina have been rather more numerous, being 127 to 118 registered in the preceding week. There is, however, a decrease in the number of deaths from Diarrhœa, Cholera, and Typhus.

	Week ending	
	Nov. 25th.	Dec. 2d.
Diarrhœa . .	27	24
Cholera . .	34	20
Typhus . . .	70	67

The Asiatic cholera appears to be on the decrease, although there can be no doubt that the epidemic conditions favourable to the production of this disease, still exist among us. The fresh cases in the metropolis reported from the 26th November to the 1st December, *i. e.* during *six days*, were only nineteen; and within the same period there were ten deaths. The next official report is dated the 4th December, and enumerates five cases and six deaths; on the 5th there were seven cases and four deaths; and on the 6th, six cases and two deaths.

The subjoined table gives the total number of cases and deaths in Great Britain from September 28th to December 5th:—

	Cases.	Deaths.
London . . .	443	235
Provinces .	159	86
Scotland . .	1089	476
	1691	797

One circumstance requires notice. Children rarely suffered from attacks of Asiatic cholera during its former visitation in 1831-2. On the present occasion they appear to have suffered equally with adults; and some of the most rapidly fatal cases have been witnessed among children under five years of age. In one case reported this week, a child of the age of two years and eight months died in *four hours* from the commencement of the attack.

Reviews.

An Analytical Compendium of the various Branches of Medical Science, for the Use and Examination of Students. By John Neill, M.D., Demonstrator of Anatomy in the University of Pennsylvania; and Francis Gurney Smith, M.D., Lecturer on Physiology in the Philadelphia Association, &c. 8vo. pp. 912. Philadelphia: Lea and Blanchard. 1848.

This thick volume of 912 pages comprises distinct treatises on Anatomy, Physiology, Surgery, Obstetrics, Materia Medica, Chemistry, and the Practice of Medicine. The space afforded to each subject is fairly apportioned; but it is obvious, from the limited extent of the work, that we can have no more than an abstract of the most important facts in these various medical sciences. Books of this kind have been long in use among French students; but with ourselves, distinct manuals on the special branches of medicine have obtained a preference. Nevertheless, the work must be judged by its title. It is strictly what it professes to be—an *Analytical Compendium*; and, so far as we have examined it, the selections from standard works on the separate sciences have been made with judgment and care.

The authors of ponderous but unreadable folios and quartos will have their indignation excited against Drs. Neill and Smith, for this daring attempt to *abridge* the manuals, which, according to them, are already so diluted as to give their readers only the most superficial knowledge of medical science. Nevertheless, we apprehend their work will survive the onslaught of these carnivorous feeders; and as we have always looked with a charitable eye upon the writers of manuals, so we shall regard with the same favour the compilers of a compendium, provided it be "a faithful digest of recorded facts and opinions."

Books of this description are most erroneously denounced, from the supposition that they are intended to take the place of elaborate treatises; but their object is rather to assist the student in mastering the elements of medicine, and to aid the practitioner by refreshing his recollection of former studies. In short, a Manual or Compendium is to the standard text-books in medicine and surgery what "the finder" is to the telescope of the astronomer. It gives to the inquirer a key to the object of his pursuit, and enables him to trace out those parts which require to be especially studied.

We have looked through this Compendium, and we find that the authors have really succeeded in compressing a large amount of valuable information into a very small compass. Some subjects are necessarily dismissed with great brevity; but there is just enough said to induce students to search for more information in larger treatises. The work is well printed, written without a single note to disturb the thread of thought, and is illustrated with 337 wood engravings, more than one-half of which are given under the section of Anatomy. Of these we shall only remark that some among them might admit of improvement by being less darkly shaded. They are, however, on the whole, distinct and accurate. We recommend this work especially to the notice of our junior readers. To those who are about to commence their studies in a medical school it will be found a serviceable guide.

Proceedings of Societies.

PATHOLOGICAL SOCIETY OF LONDON.

November 20, 1848.

C. Aston Key, Esq., in the Chair.

Dr. Robert Barnes read the particulars of a

Remarkable Case of Arrested Physical Development, connected with Hydrocephalus, in a Boy aged 9 *years* 6 *months,—the Dutch Dwarf.*

At his birth, in April, 1839, this dwarf weighed nine pounds, being two pounds above the average of new-born children in this country: he appeared healthy and strong, and remained so till the age of six months, when, without any acute symptoms of disease, the forehead was observed to grow out, and the head generally to enlarge. At this period his weight was twelve pounds. Up to the age of two years the head continued to enlarge somewhat, and the child gained a little in stature and weight. At two years old the enlargement of the head was observed to have ceased, and from that time forward his general health was arrested also; his actual weight in January 1848, being only sixteen pounds, and his present height twenty-eight inches. In form and proportion, as well as size, the trunk and limbs are exactly those of an infant of two years old: there is no appearance of any deformity or disease; he has, on the contrary, acquired aptitude and strength of body. His intellect is as much developed as is usual at his age, although it manifests certain interesting modifications, resulting, no doubt, from the reaction of the puny material structure with which it is associated.

The case was interesting as affording a very striking illustration of arrested development, associated with, if not depending upon, chronic hydrocephalus. Some analogous cases tended to show a relation between them.

A similar instance occurred in Dr. Barnes' own practice. A male child was born of the usual size, and apparently healthy: at three months old he was seized with convulsions attending upon hydrocephalus. From that time up to four years old he acquired scarcely any increase in size, although he displayed such precocity of intellect that the contrast it exhibited with his stature made him a general object of wonder. At the age of four years the hydrocephalus disappeared, and since that time the boy had grown so much that there was nothing remarkable about him.

Another example was minutely related by G. Buttner. It was the case of a female, aged 31 years, whom he had had the opportunity of watching during life and of examining after death. The entire length of the body was 50 inches; the circumference of the head, 30 inches; the length of the skeleton, 45½ inches. The entire nutrition of the soft and hard parts was arrested on the supervention of hydrocephalus, and the fontanelles remained open till towards the end of life. Dr. Barnes believed it was in accordance with general observation, that hydrocephalic children were small, and the misshapen heads of dwarfs were proverbial.

With reference to the evidence of hydrocephalus in the present subject, the head had rather an excessive proportion to the size of the body: the forehead exhibited in some degree the characteristic prominence of hydrocephalus, and the anterior fontanelle was still open. His countenance is fair; the hair soft, and nearly white. The abdomen is remarkably protuberant: this condition cannot be traced, however, to disease of the mesenteric glands: it is not greater than is commonly seen in infants, and might be owing to a physiological condition, resulting from the great activity of his animal functions making a large demand upon the digestive organs. Before the birth of this child, his mother had borne two girls, which each exhibited at birth hydrocephalic disease, and which successively died in convulsions at about the age of two years. It was this circumstance which led the parents to attend minutely to the condition of the present subject.

Dr. Barnes observed: that a healthy innervation was an important condition of nutrition, was evident enough from the effects witnessed after paralysis resulting from convulsions in early life, from pressure on, or disorganization of, the cerebral or spinal nerves, and from section of the nerves supplying any particular organ; but in what manner hydrocephalus could affect the nervous system so as to put a stop to physical growth, and at the same time leave the intellect comparatively unimpaired, was not so easily understood.

If the arrest of development in the present subject were really depending on hydrocephalus, we might expect, if this affection should be removed, that he would grow like the boy whose case had occured under his own observation, and like the famous Sir Jeffrey Hudson, who, having preserved the height of eighteen inches up to the age of thirty years, afterwards rapidly shot up till he reached the height of three feet nine inches.

Mr. **Prescott Hewett** exhibited a preparation of an

Exostosis of the Lower Jaw, for which a portion of the bone had been removed.

The patient, a young girl, æt. 21, was admitted into St. George's Hospital, on the 11th of Oct. 1848, for a hard tumor occupying the right side of the lower jaw, and extending from the last molar to the second bicuspid. It spread through the whole thickness of the bone, but projected principally on the outer surface, and towards its lower margin. The gums were not affected, neither were the teeth. The tumor, of the size of a walnut, was hard throughout, and without the slightest elasticity.

The swelling had first been perceived about eighteen months ago, when it was of the size of a small pea, very hard, and firmly connected with the bone: from this time it had gradually increased in size until within a short time, when it began to grow somewhat rapidly, and caused her some pain. The patient had never, to her recollection, received any blow on the spot, neither could she assign any cause for the appearance of the disease.

On the 26th of October the whole of the diseased portion of the jaw was removed by Mr. P. Hewett, and, on the 3d of November, the patient had so far recovered as to be allowed to go about the ward, the wound having, for the greater part, healed by first intention.

The portion of bone which had been removed measured in length two inches, and weighed ten drachms. It was exceedingly dense throughout, and presented general hypertrophy of the osseous tissue.

The exostosis formed a round tumor, very prominent on the outer surface of the bone, and of the size of a large walnut. Upon making a section of it, the tissue was found to be so hard that the saw was with difficulty made to cut through it. The cut surface presented throughout an exceedingly dense structure, approaching in character to the ivory exostosis; differing, however, from it in not presenting any well-defined line of demarcation between the healthy and diseased parts.

Mr. H. C. **Johnson** exhibited a specimen of

Non-malignant Tumor of the Right Upper Jaw,

removed by him from a man, æt. 21, on his admission into St. George's Hospital, on December 15th, 1847. The tumor caused slight protrusion of the cheek, and occupied the right side of the palate, from the first incisor to the first large molar tooth, and thence to the median line. Flat on the surface, it extended considerably into the mouth, and appeared red and spongy. In the situation of the anterior wall of the antrum it formed a projection as large as a good-sized walnut. Above the alveoli it felt hard and resisting, in other parts soft and elastic. The teeth, from the central incisor to the second molar, were loose and imbedded in the disease, the gums being soft and vascular. The general state of the constitution appeared perfectly healthy. The swelling first appeared, nine weeks before his admission, around the canine tooth, whence it gradually extended towards the median line of the palate, the roof of the mouth and alveoli. During its progress, it was twice punctured, blood only escaping, and after the first puncture it increased much on its original dimensions, and soon occupied the situation of the antrum.

The patient had as yet had no return of the disease.

The tumor was soft on section, and appeared to be made up mainly of an albuminous deposit.

Dr. **Ramsbotham** exhibited a specimen of the, so-called,

Uterine Hydatids,

about a pint in quantity, that had been expelled under his superintendence the previous evening. The patient, 28 years old, had been married twice: to her first husband only ten months; to her second two years; and had never either borne a child or aborted. The catamenial discharge was perfectly regular till the July period, when twelve days beyond the usual time passed without any appearance showing itself. There then came on, however, a slight sanguineous weeping from the uterus, which continued almost without intermission, though to a very trifling extent. As the abdomen was evidently getting larger, Dr. R. was consulted, on October 27th, to determine whether she was pregnant. He found the discharge still going on, and the uterus as large as one between four and five months gravid. On examination per vaginam the cervix was felt to be considerably developed, and the os uteri gave to the finger the characteristics of pregnancy. His opinion was that the uterus contained something, probably an ovum, whether living or dead could not be ascertained, and that probably she would abort within a short time; she was directed to keep her bed. He heard nothing more of her till last night, the 19th, when he was summoned hastily, and found the mass expelled: she had had periodical uterine pains for three or four hours, and had suffered some hæmorrhage, but not enough to affect the system sensibly. The uterus had subsided almost entirely within the pelvic cavity, and was quite empty. The bleeding had nearly ceased, and she was in no pain.

Dr. R. remarked that it was a doubt still with some physiologists whether these bodies were true hydatids or not; he considered they were not so, because the cysts contained nothing like the *echinococci*. He looked upon them as being merely a diseased dilated, or preternaturally developed, condition of the villi of the chorion; because, under the microscope, their terminal vessels are seen to have exactly the same arrangement as the vessels of those villi possess, and which are delineated faithfully by Wagner and Weber. He never saw them expelled from a virgin uterus, though many cases had come under his notice, and believed them the result of impregnation. This fact, however, would certainly appear to be rendered somewhat doubtful by two cases recorded, fourteen or fifteen years ago, by Dr. Andrew, in the Glasgow Medical Journal, where some were voided by unmarried girls of good character; in one of which subjects there was present, according to Dr. Andrew, a perfect hymen.

Dr. Ramsbotham also presented an organized mass, of the size of a small orange, which was attached to the umbilical cord of a fine-grown infant (born about a month ago), close to its origin from the placenta, by a pedicle of about half an inch in length. It was covered by perfectly formed cutis and cuticle, was made up of cellular substance with fat, and of gelatinous matter contained in small cells, and at one part near the surface there was a quantity of half formed bones; it floated in the liquor amnii surrounding the live child, was fed by its vessels, and was evidently an abortive attempt at the formation of a second fœtus, though nothing like the rudiments of a distinct organ could be traced. Also another similar specimen, about the size of two fists doubled one over the other, having attached to it an imperfect umbilical cord, covered by perfectly formed highly-vascular skin, possessing two large arteries, and showing the rudiments of the spinal cord and organs of generation. This preparation was well injected, and had been in his late father's possession for a number of years.

Mr. **Poland** exhibited a specimen of

A Premature Fœtus having the encephalon of another fœtus growing from its sacral region as a parasite,

and belonging, in the classification adopted by Geoffroy St. Hilaire, to the sub-order "Heteralia."

The specimen was sent by Mr. Turner, of Bermondsey, to Dr. Lever. The child was still-born, at about the sixth month, on May 30th, 1848. The birth was rendered premature by the presence of a large tumor growing upon it. The parturient pains lasted about three hours: the face of the child was towards the pubes; the cord twice round the abdomen below the umbilicus; the liquor amnii about three quarts in quantity, and the placenta large and pale, and but tardily expelled. This was a third child: the second was also still-born at the sixth month in September, 1847, but had nothing particular in its appearance. The first child was in April, 1846, at the eighth month: it was very small and delicate, and was reared with difficulty, but is now living. The mother's age was 27: she was one of nine healthy children, and had suffered from leucorrhoea since her marriage in June, 1845.

The foetus was apparently healthy, and was perfectly normal in every respect, with the exception of a large tumor from the lower part of the back, growing by a narrow peduncle from the median line over the sacrum. The tumor was of the size of a small foetal head, of a pinkish or reddish hue, enveloped by a thin membrane, somewhat similar to the decidua. It had no definite form or shape, except as a globular mass. The pedicle consisted of common integument, fat, and cellular tissue, prolonged from the body of the foetus, and soon lost upon the tumor by emerging into the envelope; some vessels were traced through its structure for the supply of the tumor. The mass itself was composed almost entirely of brain tissue, some cellular tissue, and pieces of bone studding it here and there. The tumor was placed in water to macerate, and many series of bones obtained, which had great analogy to the bones of the head, although only one or two were recognisable.

Dr. **Lever** exhibited a specimen of

Cystiform Disease of the Fœtal Kidney—Absence of Ureters.

Mr. C. W. Steel, of Lewisham, had kindly forwarded him the specimen, which was taken from a foetus of about eight months' gestation. The child was club-footed and club-handed: it had six fingers on the left hand, and as many toes on each foot. There was a hernia cerebri at the posterior part of the head, just below the lesser fontanelle. The tumor was about the size of a fig, and of a deep red colour. The choroid plexus was studded with a number of cysts. The thoracic viscera were natural in appearance, as were the abdominal viscera, with the exception of the kidneys: the right weighed 4 oz. 6 drs.; the left, 4 oz. 1 dr.: they were irregular on their surface, from numerous projecting cysts. On a section being made through the centre of each, it was found that all trace of kidney structure had disappeared, and that its place was occupied by an innumerable quantity of cysts of different sizes, forming the whole mass of the organ; the calyces were in part normal, but large, and the pelvis of each kidney was perfect, with the exception that it formed a blind sac, with no external opening—that is to say, there was no ureter. The capsule of the kidney was thin, and so adherent to the surface that it could not be removed. The bladder was small and empty; externally there were no traces of ureters; but internally, at the spots where they should have entered, there were small imperforate papillæ.

The structure of these kidneys was examined by Dr. Gull under the microscope: he could detect no secreting tissue, and considered the cysts to be dilated, obstructed, Malpighian cysts.

Dr. **Brinton** exhibited a specimen of

Fracture of the Neck, Trochanter, and Shaft of the Femur, of old standing,

from the body of a woman, aged 67, who had been brought for dissection to King's College. She was stated to be a cripple, and her death was attributed to old age.

The lower extremities were much shorter than natural, and considerably deformed, this deformity resulting from four previous fractures, two in each limb.

On the left side, a transverse fracture of the femur immediately below the trochanter had been united by the ordinary process of reparation, though with a considerable curve and shortening of the thigh. The fracture of the leg on the same side offered a diarthrodial false joint.

On the right side both the fractures occupied the femur, and offered the following appearances:—

The head, severed from the rest of the bone, presented at its neck an obliquely truncated and flattened surface, looking outwards and somewhat forwards, and adapted to a similar surface on the opposite trochanteric extremity of the femur. Both these surfaces were covered with a fibrous or fibro-cartilaginous tissue in sparing quantity.

The fractured portions were connected by an interrupted kind of capsular ligament, shorter at the upper part, but more lax and irregular below. When first opened, these ligaments were lined by a smooth membrane, and a glairy synovial fluid in very considerable quantity occupied the cavity.

Some cartilaginous-looking bodies, about the size of a pea, were seen in connection with different portions of the ligaments: their form was pedunculated, and the tissue of their constricted neck was ligamentous and membranous: they were white, smooth, and shining, and of consistence about midway between that of cartilage and bone. On cutting one of them across, it was seen to consist of a layer of cartilage enclosing a bony cancellated structure; much softer, however, than natural. The situation, texture, number, and size of these bodies sufficiently showed them to be fragments of bone, which were broken off at the time of the injury, and had since undergone an approximation to the structure of cartilage; or, thus far, a partial *conversion* into that tissue.

The femur, between the two trochanters, offered appearances of several previous fractures, joined by bone, but generally with some projection of one of the two united surfaces, which served to detect the site of the injury.

The lower extremity of the bone, about two inches above the knee, exhibited an irregular and almost serrated broken end, while irregular spicula of bone also existed in the same situation, being apparently attached by one extremity; but the connection was very loose, so that these pieces were easily removed as separate by the forceps: they were covered by a periosteum, which was stripped off with facility, and they offered none of the appearances of necrosis. The projecting ends of bone were also covered by a kind of fibrous or fibro-cartilaginous tissue, while a delicate membrane connecting them formed a cavity, the interior of which was occupied by much synovia.

A false joint, in fact, existed here also; but the shape of the broken surfaces, and the comparative absence of ligamentous structure, united to shew that, compared with the joint above, there had been less attempt at reparation, and, in all probability, less capacity of motion.

Although the history of the case was deficient, yet it seemed pretty evident that, at one and the same time, several fractures had occurred; that some of these united completely; that others formed a diarthrodial joint; while in others, although the result was the same in kind, the union was still more defective; and, since they thus happened in one patient, a variety of causes, such as "general irritation," "state of constitution," &c., were excluded.

The cartilaginous bodies alluded to formed another interesting feature in the specimen. In one or two of them the peduncle was narrow, and seemed as if any violent motion might have severed it from the seat of it attachment, and set it free in the cavity o the false joint.

The formation of cartilaginous bodies at the extremities of a fractured bone, when thus imperfectly united, had been mentioned by John Hunter and Sir E. Home: but this specimen seemed to indicate at least a partial *conversion* of the bone into this tissue. The minutiæ of this change, as revealed by the microscope, were the following:—

The exterior of these bodies was formed by a layer of cartilage containing the ordinary corpuscles, their size being about 1-600th to 1-400th of an inch, and their number very great.

In their interior the Haversian canals still existed, and many of them could be seen, on a transverse section, as circular apertures filled with dark-yellow blood-corpuscles. Around each such canal a clear space existed, forming a concentric circle of about thrice its diameter. This Haversian stratum of cartilage was exactly similar to that which covered the periphery of the body. Beyond this space a thin cancellus of bone was present, the limits of which were defined by its dark colour and opacity, strongly contrasting it with the cartilaginous layer enclosing the vessels. No Haversian canals were present in this bony layer, but it contained very large lacunæ. These are mostly numerous, and of a very simple form, with little of their ordinary stellated appearance. Canaliculi or pores were seen with difficulty, on account of the softness of the tissue rendering a thin section almost impossible; but water permeated instantly all the lacunæ of a section: whence the existence of these communications was highly probable.

The granules of the osseous tissue were rather larger, and in some places more sparingly scattered, than usual. Their aggregation constituted the dark bony stratum, and this, being everywhere farthest from the vessels, formed a net-work of bone, occupying the same position as the original cancelli, but apparently of diminished size.

A pen-and-ink diagram illustrated some of these appearances.

These changes would at first sight admit of two interpretations: the deposit of cartilage *within* a cancellus, or the *conversion* of the cancellus into cartilage.

The first of these took at least a part of the change; but the altered condition of the bone, as regarded density, size, lacunæ, &c., made it more probable that a substitution occurred to some extent.

There was great reason to believe that pressure was one of the main essentials to that series of pathological changes resulting in the production of "loose cartilage." This case would seem to add, that pressure did not act immediately, but sometimes mediately, through the vessels of the structure, and that the cartilaginous change is thus not centripetal from the surface of pressure, but centrifugal, from the vessels.

Also a specimen of

Ossification of the Arachnoid,

taken from a patient who had died of some general disease, no suspicion of any affection of the meninges having been entertained during life.

It consisted of very numerous and small plates of ossific matter, lying immediately beneath the visceral layer of arachnoid. Their outer surface was smooth and covered by the serous membrane. Their inner surface rough and minutely mammillated; their little projections just visible with the naked eye, looking towards and into the sub-arachnoid space. The size of the plates varied, on an average, about one-eighth to one-fourth of an inch.

The microscope shewed them to consist of numerous conical processes, projecting from a flat stratum of bone. Rarely their shape was fungiform. Their several appearances somewhat resembled the pharyngeal teeth of some snails. In structure they consisted of canaliculi and lacunæ, without Haversian canals.

Dr. Quain exhibited for Dr. A. T. Thomson, a specimen of

Aneurism of the descending aorta, producing pressure on the pulmonary veins, and hæmorrhage,

from a man æt. 55. The prominent symptoms during life were repeated attacks of hæmoptysis, coming on without any assignable cause, the first attack having commenced fourteen weeks before his death, which was accelerated by an attack of pneumonia. The physical signs indicated that the left lung was throughout the affection more impeded in its action than the right. The sounds of the heart were natural. In the post-mortem examination, the right lung was found slightly adherent, and very much congested in some places. The lower lobe was firm, hard to the pressure of the fingers, and portions of it sank in water. The bronchial membrane was stained of a vivid red colour, and contained a good deal of frothy mucus, which also exuded from the tissue of the lung itself when pressed. There were neither tubercles nor grey granulations present.

The whole of the upper lobe of the left lung was very firm, and cut hard, something like leather; the section was of a deep brownish red colour, but it was free from granules. In the middle and lower lobes, when cut into, were present a number of patches of pulmonary apoplexy, varying in size from that of a sixpence to a crown piece, and sinking in water. When the upper lobes were examined under the microscope, numbers of exudation corpuscles were seen, and which were not present in either of the lower lobes. This lung was also free from tubercles. The bronchus on this side, as it passed under the arch of the aorta, had not suffered compression, nor was altered in any way. The pulmonary veins were filled with a peculiar, firm, dark-coloured coagulum, extending even into the minute branches, and the main trunks had undergone very considerable compression from the aneurismal tumor.

The heart was healthy, both as regarded its substance and its valves, with the exception of the aortic, on which were atheromatous deposits. The ascending portion of the aorta, one inch above the similunar valves, measured 3⅝ inches when laid open, and the same at the top of the arch; but about 1½ inches from the origin of the left subclavian artery, and in the descending portion of the aorta, was a tumor the size of a small apple, globular in form, and when laid open measured five inches. The under surface was laminated from place to place, and firmer in the centre than elsewhere. The recurrent laryngeal nerve was not at all complicated in the mass.

The aorta, when slit up, was seen to contain atheromatous deposit, and was studded with ossified or calcified spots. The atheroma under the microscope presented plates of cholesterine and fatty matter.

The aneurism was of the true kind, the middle coat being distinctly traceable into the tumor, and the sac appearing as if its coats had yielded generally; there was no ulceration nor destruction of substance.

Dr. Thomson was unacquainted with any satisfactory diagnostic signs that could indicate the presence of an aortic aneurism so deeply situated as this was; nor did he know any means by which it could be detected, the attendant derangement of the lungs being the same that is common to diseases of the chest unconnected with aneurism.

There was every reason for supposing that the compression of the main trunks of the pulmonary veins was the chief cause of obstructed circulation, the efficient cause of the hæmoptysis; the blood proceeding from exudation, not rupture.

The case was interesting by demonstrating how much mischief might exist without any suspicion of its presence; for the aneurism must have existed a long time previous to the first appearance of the hæmoptysis.

Also, for Dr. Burslem, a specimen of

Partial Ossification of the Pleural Membrane.

A female, æt. 60, had for many years suffered from dyspeptic symptoms, but remained free from pulmonary affection up to April last, when she was seized with inflammation of the right lung, which seemed to have spread from the liver, then and for some time previously in a state of subacute inflammation, and considerably enlarged. At this time the movements of the right side of the chest were much impaired; there was urgent dyspnœa, cough, and slight viscid mucous brownish expectoration; great dulness on percussion, both anteriorly and posteriorly, over the two lower thirds of the thorax; the respiration and the voice over the same space were bronchial, and in places accompanied with crepitant rales, and large mucous rales at lower part posteriorly; increased extent of dulness over the cardiac region; also increased impulse of the heart, and in the subclavian and carotid arteries.

The patient objected to submit to the usual treatment for this disease; she recovered somewhat her strength and flesh, the breath remaining very short on exertion; the physical signs (with the exception of the crepitant and mucous rales, which had disappeared), continuing the same. A fortnight ago she had an attack of catarrh, succeeded by bronchitis and copious muco-purulent expectoration, under which she sank.

On opening the chest, the right pleura was found firmly adherent throughout, especially posteriorly, which contained a plate of bone.

The specimen exhibited a portion of the plate of bone, and the condition which prevailed in the two lower thirds of the right lung. The upper third and the left lung contained a considerable quantity of serous and mucous fluids, and the bronchial membrane was inflamed.

The liver was much enlarged, and upon section presented the mottled nutmeg appearance; its upper surface was firmly adherent to the diaphragm. The heart was much enlarged, with considerable deposit of fat; there was hypertrophy and dilatation of the left ventricle; the arch of the aorta was dilated, and contained a spiculum of bone near the attached margin of its valves; the mitral and aortic valves were equal to their office.

SOUTH LONDON MEDICAL SOCIETY.

November 24th, 1848.

John Hilton, Esq., F.R.C.S., President, in the Chair.

An Extraordinary Case of Abdominal Hæmorrhage, supposed to have been one of Asiatic Cholera. By R. Robinson, Member of the Pathological Society of London, and formerly Surgeon to the London Dispensary.

Mr. President and Gentlemen,—In the cases which I have on former occasions had the honour to bring before this Society, I selected, out of a large number in my possession, those which I thought either novel in character, practical in their nature, or likely to lead to free discussion: thus, in the case of abdominal aneurism communicating with the inferior cava, many points both of physiological and pathological interest arose, which excited no small controversy and much interest; and in the case of enormously enlarged liver in conjunction with pregnancy, and which was entirely unsuspected during life,—and in which, indeed, it was thought that *twins* existed,—many very interesting remarks were called forth from the different members of this Society, and other medical men who took part in the discussion.

In the following extraordinary case of bleeding into the abdomen, which I am now to relate, I trust I shall be as fortunate as on former occasions. I have ventured to call this an extraordinary case, as it has never fallen to my lot to see one at all like it, and also because, even now, I consider it involved in very great obscurity.

I have only heard of *one* case in any way resembling it, and for that I am indebted to my friend Dr. Addison. I purpose first to relate the particulars of the case, with the appearances observable on dissection, and then to offer a few observations on it, which, upon reflection, have occurred to my mind, and which, with a view of assisting free discussion, I shall subsequently put in the form of *propositions.*

August 22d, 1848, 11 P.M., I was requested to see a highly talented and abstemious gentleman, æt. 41, whose wife and family were out of town: a strong muscular man, who, never feeling better in his life, dined with a friend, about 3 P.M., upon mutton, French beans, and apple pudding, with which he took only one glass of sherry. He started from his own house about half-past 10 P.M. with his carpet bag, in high spirits, for Swansea: the night was damp and cold: after proceeding for a short distance he was suddenly seized with violent spasmodic pain in the abdomen, with vomiting, which compelled him to return home and go to bed.

Upon visiting him shortly afterwards, I found him very restless: he complained of violent spasmodic pains, sometimes across the upper and sometimes across the lower part of the stomach, and occasionally flying about the chest: his countenance, when the pain was on him, was very anxious, pale, but somewhat sallow; but when the pain remitted, the colour came, the features were placid, and he was even cheerful: the abdomen was rather full, but not at all tender on pressure; he had retched three times, and been sick twice, but had brought up in all only a little mucus, with some yellow bile; he had recently had a motion, which he stated scalded him in passing; he had not passed water for some time, but had no desire to do so. The tongue was moist, but rather coated; the skin was cold and clammy; the pulse soft, regular, tolerably powerful, about 70: ordered a fire in the room; a mustard plaster to the pit of the stomach.—Cal. gr. x.; Opii, gr. ij. statim; Magn. Carb. P. Rhei aa. gr. xv.; Conf. Arom. ℈j. Aq. Menth. Pip. ℥j. 4tis horis. Cajeput and Laudanum Embrocation to the chest.

These means appearing to relieve him, and the spasms subsiding, I left him, with directions to be sent for if he became worse.

August 23d.—I was sent for at 7 A.M. when I was informed that he had continued much easier until about 5 A.M., when the spasmodic pains again came on, more especially towards the *lower* part of the abdomen, which were relieved by friction; he had slept for a short time; had retched frequently, but had not been sick; abdomen rather more distended, but not at all tender to the touch; neither motion nor urine passed, though there was a tendency to the former; he is now in a state of *decided collapse*: his voice can scarcely be heard, except he makes a great effort, and then it is even loud; there is very great restlessness, utter inability to lie scarcely a minute in the same position; skin quite cold and clammy; pulse slow, regular, but so feeble as to be scarcely perceptible; tongue warm, moist, coated; perfectly sensible; complains occasionally of spasmodic pains in the back: hot bottles to feet.—Cal. gr. xx. statim: brandy and water.

At 10 A.M. it is reported that the spasmodic pains, restlessness, and efforts at vomiting, continue; there is still more decided collapse, great anxiety of countenance; lies in a half stupid state, but is quite sensible when roused; there is slight hiccup; he experiences great alteration of temperature at times, but his sensations are the reverse of the facts—when he feels most warm the skin is coldest, and *vice versâ*.

Not liking to take the responsibility of this case upon myself in the absence of his relatives, I met a medical friend in consultation, when we both agreed that the symptoms were, in many respects, like those of Asiatic cholera, although it must be admitted that the serous diarrhœa and extreme coldness of the skin and breath were absent. Bottles filled with hot water were applied to all parts of the body; gloves were put on to the hands; beef-tea, with brandy and cayenne, were given by spoonfuls from time to time; and mustard plasters were applied to the calves of the legs: but from his extreme restlessness, the mustard was spread all over the bed, and scarcely any rubefacient effect was produced. He seemed for a time to rally a little, and the pulse, which had been at times quite imperceptible, returned, though very feebly and indistinctly. He now asked to have the lower part of his abdomen rubbed, which he said gave him relief, and the more, apparently, the more firmly the pressure was applied. The anxiety of the countenance, however, did not at all diminish. His breathing, which all the morning had been hurried, now became gasping, and he died at half-past 12 o'clock at noon.

Dissection twenty-five hours after death.—Abdomen very much distended; no decomposition; integuments of the back livid, from the gravitation of the blood post mortem; nearly an inch and a half depth of fat under the integuments of the chest and abdomen: upon opening the latter, a quantity, I should say at least two quarts, of dark fluid blood was removed by sponging; and there was also a quantity, about eight ounces, of dark fluid blood in the left side of the chest, which in all probability escaped from the abdomen, as that was opened first.

The lungs filled their respective cavities; were crepitant throughout but much congested at their posterior inferior part (cadaveric gravitation); mucous membrane of trachea and bronchi healthy.

From the distension of the abdomen, the diaphragm was thrust high up into the chest, and being much covered with fat, looked, at first sight, like the heart without its pericardium. There was not any fluid in the pericardium; heart flabby, much covered with fat; all the valves healthy. The aorta, carefully examined from its origin to its bifurcation, was found entire, and quite free from aneurismal dilatation; indeed, throughout, and especially in the abdomen, its calibre was small for a person of his size and make; the external coat, however, of the thoracic aorta, to the extent of nearly three inches, on the left side was much infiltrated with blood (ecchymosed).

Upon sponging away the fluid blood from the abdomen, there were observed upon the convex surface of the liver two large florid coagula, one upon the right, the other upon the left lobe of the liver; there was a third, also, lying upon the peritoneal coat of the duodenum, but not attached to it. Liver soft, of pale yellow colour. Gall-bladder much distended with green bile; towards its fundus was a small projection, like the appendix vermiformis in miniature; the spleen and pancreas were healthy. The mucous membrane of œsophagus, stomach, duodenum, and other parts of the small and large intestines, where examined, healthy. A large quantity of greenish, sour-smelling fluid, with some half digested pieces of apple or potatoe, in the stomach, and *one of these pieces, the size of a nut, was found in the duodenum.* Some parts of the mesentery were thickened and indurated, and when cut into had a milky aspect, like softened fat: some of the mesenteric glands were enlarged, and one of them, having calcareous matter in its interior, was ulcerated to the extent of a pin's head, from which a little oily matter had escaped. The right end of the stomach, and the transverse colon, were very much ecchymosed, from blood extravasated under the peritoneal coat.

The kidneys in structure appeared healthy, but the fat and cellular tissue surrounding them, but more especially the left, were saturated with dark-coloured blood, and attached to the posterior inferior part of the left kidney was a tumor about the size of the two kidneys put together, very heavy to the feel, but which, upon close inspection under water, consisted of nothing but greenish black blood, surrounded by condensed cellular tissue. The peritoneum in this situation was very soft and torn; but as it gave way under the finger in taking it to the light for examination, although the greatest caution was used, I am unable to speak with accuracy as to how much was owing to the pressure of the hand, and how much, if any, to other causes.

Although the aorta, the iliac and renal arteries, the inferior cava, the splenic and portal veins, were carefully traced throughout, the source from whence the bleeding proceeded could not be ascertained. It is right, however, I should mention that, from an accident owing to imperfect light and fatigue (for I expended four hours in the investigation), the left renal artery, and the aorta in proximity with it, were cut across, but the parts were put in apposition again, and there did not seem the least trace of rupture or hæmorrhage from that part, which I think must have been apparent had the bleeding proceeded from there. The bladder was partly distended with pale clear urine, and the abdominal veins were neither tortuous or prominent.

After the post-mortem examination was made, I was informed that about a fortnight previously this gentleman was at Brighton with his family; that two of his children were turned out of a donkey-cart, and that the cart fell upon them; that he was alarmed, and exerted himself much to extricate them, when he suddenly felt pain in his back, especially on the left side, and slight sickness and faintness, which lasted some hours; but by the next day he was as well as ever, and thought no more about this occurrence.

These, Mr. President, are the *facts* of the case, precisely in the order that they presented themselves to my notice; and I will now proceed to offer a few observations upon them.

I. The first point to which I would call the attention of the Society is, the great responsibility that sometimes devolves upon medical men. Here is a gentleman very well connected, his wife and family away from him, apparently in the most perfect health, upon the eve of starting for a journey: is suddenly attacked with spasm, falls into collapse, and dies in rather more than twelve hours from his being first attacked. I say this is a very painful case to have the charge of; for, had not a post-mortem examination been permitted (and at first there was great objection made to it), hopes might have been entertained that, had a different plan been pursued, a different result might have followed.

II. I would remark, secondly, upon the great advantage of post-mortem examinations in cases like these, not only to the practitioner in charge of the case, but to the friends, and also to the public. To the practitioner it is highly satisfactory, as it unfolds a very extraordinary occurrence; to the friends it is consolatory; for, whatever difference there might be about the proper treatment to be adopted, there cannot, I think, be two opinions that, whatever had been done, the result would have been the same—the case must necessarily have proved fatal. To the public it is highly satisfactory, as it eased the public mind, and proved that this was not a case of cholera, which was causing great dread at the time.

III. *Diagnosis.*—I would, in the next place, call the attention of the Society to the diagnosis of this case; and here I must frankly admit that I was quite in error. I must also admit that, although one gentleman who saw the case with me agreed in opinion with me, another gentleman, who also saw the case, was of a different opinion; and when the case was mentioned to Dr. Addison, his opinion was opposed to that view. It may therefore, I think, not be unprofitable, first, to consider what were the conditions most likely to give rise to the state in which this patient was found, and what were the symptoms which presented themselves to our notice. I must, in the first place, premise that the case is made much more plain now that a post-mortem examination has been obtained, and a fact come to light—namely, the reception of an accident which was, at the time the opinion was formed and the case under treatment, altogether unknown.

The principal conditions which were most probable to have existed in this case I think are three: hæmorrhage into the abdomen, rupture of an abdominal viscus, and cholera. The more prominent symptoms were, suddenness of attack; pain, of intermitting and spasmodic character; collapse, at first following pain, ultimately becoming more deep and permanent; nausea, with but little vomiting; one action from the bowels: a feeble and ultimately imperceptible pulse; cold and clammy state of the skin; restlessness; great anxiety of countenance; distension of abdomen; relief from firm abdominal pressure; the absence of micturition; and hiccup.

1. *Suddenness of attack.*—This proves nothing, as it would equally occur whether the patient were the subject of hæmorrhage, rupture of any abdominal viscus, or cholera; for it has been frequently found that persons have been suddenly taken, apparently in perfect health, with this latter malady, and destroyed by it even in an hour or two; and it was, of course, a case of this kind that we suspected our patient's to be.

2. *Spasmodic intermitting pain* I do not remember to have seen in any case of ruptured viscus that has come to my knowledge; neither have I noticed it in internal hæmorrhage; and I am therefore disposed to attribute it in this case more to the piece of apple found in the duodenum, and to the distended condition of the gall-bladder, than to the bleeding. If so, taken in conjunction with the motion that was passed,—the urgent nausea and vomiting, the absence of any urine being passed, and the decided collapse,—it strengthened the idea of this being cholera. It must, however, be admitted here that the vomiting was not of that violent kind we see in cholera; but then there was not much in the stomach—the stage of *serous vomiting* had not arrived, and the prostration of strength was exceedingly sudden.

3. *Anxiety of countenance* is a symptom common to all the affections alluded to above, and therefore helps us but little in coming to an accurate conclusion as to the nature of this case.

4. *Collapse* occurs in all the states of the system which I have mentioned, and therefore helps us but little, if at all, in defining the particular state of our patient. Collapse can scarcely be said to be a symptom of hæmorrhage generally, for into the cranium, the thorax, and the pericardium, it may occur to a great extent without; and most probably the reason why it occurs in abdominal hæmorrhage is, that it generally attends, if it does not arise from, rupture of some viscus (and was there not rupture of the peritoneum in this case?), and there is to be attributed more, I apprehend, to the rupture than to the bleeding.

5. *Restlessness*, again, is a symptom which may occur in all the three states, but is certainly, I think, *more generally* seen in cholera than either in ruptured viscus or hæmorrhage; and the restlessness of this patient appeared to me such as I have often seen in cholera cases.

6. *Fulness of abdomen* is a symptom, I am willing to confess, *not* met with in cholera cases, and led me to doubt the correctness of the diagnosis, as there is generally in these instances, but more especially where there is much serous vomiting and purging, a remarkable flatness of the abdomen; but then, on the other hand, it must be stated, that the duration of this case was not long enough for it to have arrived at the stage when this symptom was to have been expected.

7. *The state of the skin* was also such as is generally seen in cholera cases; but, as I am not aware that it differs from that seen in most, if not all, cases of fatal collapse, that symptom does not throw much light upon the case under consideration.

8. *Hiccup* is not usually, if at all, seen in cholera; and therefore, perhaps, should have suggested another course; but it did not show itself till late in the attack, and was most probably owing, as has since been ascertained, to the dragging effect produced upon the cardiac orifice of the stomach by the ascent of the diaphragm, owing to the pressure upon it from the *gradual* effusion of blood.

Upon the pulse, the tongue, and the action of the bowels, I shall not dwell, as there was nothing pathognomonic to be drawn from these; nor upon there not being any water passed, as it by no means follows on that account that there was not any secreted, as was most clearly proved by the post-mortem examination in this case, although, as far as it went, it strengthened the notion previously entertained.

Upon the whole, therefore, I think it must be admitted that the symptoms were exceedingly equivocal; that there were signs present, and others absent, of all the conditions to which allusion has been made, and that it is not therefore very surprising that an error in diagnosis should have occurred. It may not be out of place to mention here, that when any disease is peculiarly prevalent, and especially if it is one which causes general alarm, it is not to be wondered at that the minds of medical men should be disposed to dwell upon it; and it is not therefore very surprising, in times like the present, when cholera is making such ravages, that any disease attended with sudden collapse and sickness should be classed in that category.

It is not improbable that I should have taken a different view of this case, as well as of another which has recently occurred to me,—which I also supposed to have been cholera, but which turned out to be a very different malady,—if cholera had not been prevalent; and the same might probably be said of another instance which has recently come to my knowledge, where a case was reported to the Registrar-General as one of spasmodic cholera, but which a post-mortem examination subsequently obtained proved to have been a case of sudden hæmorrhage into the stomach from rupture of the gastric artery.

Instances like these should therefore furnish a caution, and induce us thoroughly to investigate a case before giving any opinion as to its nature, and especially with reference to a disease which causes so much alarm in the public mind as that of Asiatic cholera.

I come, in the next place, to consider the most extraordinary feature of the case—namely, the extravasation of so great a quantity of blood as was observed, without our being able to say from whence it proceeded. I purpose, therefore, considering this subject under two heads—1st, its source, and then its cause.

Source of the Hæmorrhage.—Although I am unable to say from whence *it did come*, I can most positively state from whence it did *not*. It did not come from the aorta, or any of its large branches—it did not come from the common or internal iliacs, for they were traced throughout, and found quite free from rupture. It did not come from the inferior cava, the splenic or portal vein, for they were dissected with equal care, and found entire. When I say that it did not come from the aorta, or any of its larger branches, I ought, perhaps, to qualify that observation, as I have admitted that the aorta and the left renal artery were accidentally cut across, but it must be remembered that I soon found out my mistake, and put the parts in juxtaposition again; when nothing like a rupture was perceptible, either in the left renal arteries or veins—and I think so large a quantity of blood as was discovered in this case could never have proceeded from one vessel, and its source not be found out. It is worthy of observation, however, that the greatest effusion was in the situation of the left kidney, and there can, I think, be little doubt that it originated in that neighbourhood.

It seems, then, most probable that the bleeding did not come from one large, but probably several small vessels; and this view is strengthened by the case which fell under Dr. Addison,* to which he alluded in a letter to a medical friend, who has allowed me to quote it. As regards the case, I remember one very like it—the symptoms were the same, and upon post-mortem examination discovered the abdominal cavity full of blood, while a most patient and prolonged search could not detect any rupture. I think the inspection was made by the present Mr. Taunton, of Hatton Garden, an excellent anatomist. If it should be thought generally (which seems, under all the circumstances, the most probable supposition) that it proceeded from small vessels, then most probably it took place both from arteries and veins. It is not easy to decide, from the appearance of the blood after death, whether it was originally arterial or venous, as if the serum is much separated from it, either arterial or venous blood would assume a dark colour; and, on the contrary, if the serum is retained, and there is free access of air, either would present a florid hue; but certainly the blood effused under the left kidney had more the character of venous, that on the surface of the liver of arterial blood.

The cause of the hæmorrhage.—In considering this part of the subject, two questions arise,—when did the bleeding take place first? and what was the cause of it? If the first could be satisfactorily answered, there would be comparatively little difficuly in answering the second.

Did the effusion commence when he over-exerted himself? did it take place when he was immediately taken ill? or did it occur when he was suddenly worse about 5 o'clock the following morning? The exertion he made when the accident occurred to his children; the pain he felt immediately afterwards in the back, and particularly the left side of it; the amount and *appearance* of the blood coagulated around the left kidney, seem to lead to this idea; on the contrary, the short time he felt any inconvenience, the perfect health he apparently enjoyed subsequently, seems to forbid this supposition. On the contrary, if the bleeding did not take place till his sudden seizure, could so much blood have been extravasated *from small vessels* in so short a time, and under so depressed a state of the system? We have next to inquire what was the cause of this hæmorrhage,—was it produced by the accident? was it caused by the spasm? or was it owing to an hæmorrhagic diathesis? or did it arise from spasm in an hæmorrhagic diathesis?

If it is admttted that the bleeding occurred at the time of the accident, then no doubt the exertion he made was the primary cause, but the perfect health he subsequently enjoyed seems almost an insuperable objection to that view; and, supposing it did occur there, and it proceeded from small vessels, what kept it up? an hæmorrhagic diathesis? But why did this show itself when he went out in the evening before his death? There are two or three circumstances which may probably throw some light upon this obscure case—at least, it appears to me that they may do so: one is, the different appearance of the blood effused behind the peritoneum, and that effused about the convex surface of the liver, and the state of the peritoneum in the situation of the left kidney. Was that ruptured? The appearance of the blood in the two situations seems to indicate that it had been effused at different times, and the appearance of the peritoneum would warrant the supposition of rupture, as it does not become softened and lacerable generally in a few hours: moreover, if there was not rupture of the peritoneum, to what was the fatal collapse owing?

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* It is right to mention that this case occurred to Dr. Addison a long time ago, and that the details are given from memory.

Taking all these circumstances into consideration, I venture to offer the following solution of this difficult case: that the exertion made ruptured some small vessels in the neighbourhood of the left kidney—that then an hæmorrhagic tendency showed itself, by which I mean, in the language of Professor Miller, a tendency to bleeding of an uncontrollable kind from slight breach of surface—not arterial by jets—nor venous in full stream—but capillary by oozing. The peritoneum was very greatly distended, and separated from the muscles behind it; that by this pressure its texture was disorganised and softened—and that when the spasm was set up from going into the cold, the vessels of the surface were restrained—those of the internal organs were congested—and then the peritoneum gave way, and the fatal collapse ensued: the hæmorrhagic diathesis continuing, the oozing went on within the cavity of the peritoneum, until his death, as it had done before, posterior to that membrane. I throw out this suggestion with great diffidence, and more with a view of taking the opinion of the Society upon it, than feeling altogether satisfied with it myself; and yet I am unable to comprehend any other so capable of explaining *all* the *phenomena* which presented themselves to notice.

Although I do not think it had anything to do with the symptoms, the state of the mesenteric glands, alluded to in the report of the post-mortem examination, should not go entirely unnoticed.

Treatment.—Respecting the treatment I have but little to observe, as, under any circumstances, nothing satisfactory could have been suggested. The plan I pursued in the first instance was in accordance with my original idea, that there was spasm from indigestion and biliary derangement; and the state of the gall-bladder and the undigested substance found in the duodenum, together with the temporary alleviation of the symptoms, seem to me to justify the plan pursued. Respecting the subsequent treatment, the gentleman who had charge of the case in conjunction with me, having the same view of its nature, and treating Asiatic cholera upon the same plan that I have usually adopted, namely, by large doses of calomel, warmth to the surface, and stimulants internally, that mode of treatment was pursued. As it turned out, however, all medicine, and especially stimulation, would have been better avoided, and cold applications *might have been more beneficial* than warm ones. I say this in consequence of what took place in another remarkable case of abdominal hæmorrhage, which also occurred in my practice, and which I have it in contemplation to submit to the profession elsewhere; but I think I am justified in saying, that in the depressed state of the system of our patient, and no positive evidence of internal hæmorrhage going on, no one but a *warm* hydropathist would have thought of resorting to cold water here.

I now bring to a close my observations upon this remarkable case, and, in doing so, must once more express my regret at the imperfections which occur in it. I might easily have kept them to myself, and should not easily have been found out, but I think truth is the first requisite for every one who comes in any way before the public, and would, therefore, infinitely rather subject myself to the reproaches of this Society for the imperfection of my details, than attempt to conceal any thing which ought in fairness to be stated, agreeing as I thoroughly do in the following sentiment of a learned teacher of this metropolis: "It is a duty we owe ourselves to scrutinize particularly any errors we commit, either in diagnosis or practice (and *I* may add in dissection). Depend upon it, if we do this faithfully, we shall derive great benefit from it, and our experience will be infinitely more profitable than if we slur over our mistakes without explanation or inquiry."

I have now, Mr. President, simply to state my propositions :—

1st. This case illustrates the great responsibility that sometimes devolves upon medical men.

2dly. It shows the great advantage of post-mortem examinations in obscure and doubtful cases.

3dly. It is a good example of the difficulty not unfrequently met with in diagnosis.

4thly. It gives a *caution* thoroughly to investigate a case before giving a decided opinion.

5thly. It proves the necessity of a post-mortem examination, in order to give, without fear of error, a positive opinion.

6thly. That the hæmorrhage did not proceed from a large vessel, but from capillary branches.

7thly. That the exertion he made was the primary cause of the rupture of these vessels in the vicinity of the left kidney.

8thly. That then an hæmorrhagic diathesis was set up, which shewed itself by gradual oozing behind the peritoneum.

9thly. That the peritoneum in that situation, from over distension, became softened and altered in character.

10thly. That from exposure to cold, spasms ensued, and this, by compressing the muscles and congesting the vessels about the back, led to rupture of the peritoneum.

11thly. That bleeding then took place into the cavity of the abdomen.

12thly. That partly from the rupture of the peritoneum, and partly from the abdominal effusion, fatal collapse ensued.

11thly. That the state of the mesentery and mesenteric glands had little if anything to do with the symptoms produced, or with the cause of death.

12thly. That the treatment adopted in the first instance was in accordance with the condition suspected,—was of temporary benefit — and was justified by the post-mortem examination.

Dr. Hughes agreed with Mr. Robinson in the main as to the pathology, but with respect to the difficulty of diagnosing it from cholera, he did not think that disease would have been thought of had it not been prevalent at this time. The moist cold skin, and other peculiar characteristics of the disease, were absent, and the probability would have been, that there was a ruptured aneurism. He doubted also if the hæmorrhage was capillary; it is true it is sometimes very difficult in some forms to trace its source, except by injection with water. He had often, in inspecting bodies, failed both in ulcers of the stomach and lungs, until he injected, and then he always succeeded. Capillary bleeding he had not seen, except in purpura, and indeed it is not as yet proved. The bleeding might have occurred at the time of the accident in the region of the kidneys, and that the peritoneum was ruptured afterwards. The collapse he considered not the result of ruptured peritoneum, but of the hæmorrhage.

Mr. Robinson replied, that in midwifery we frequently had collapse where the peritoneum only was ruptured, and thought it incredible that one small artery, if ruptured, should not close, particularly when fourteen days elapsed between the accident and death. In answer to Dr. Lodge, he replied, that the tumor was bland, and that there was no diseased condition of the artery; he also did not think that spasm was a symptom of internal hæmorrhage.

Dr. Hughes observed, he did not think it unusual for a small artery to continue bleeding; he believed also that oozing from capillaries was rare, and that the hæmorrhagic diathesis, such as is seen in bleeding after the extraction of a tooth, was not proved in the present case.

Mr. Robinson said, notwithstanding all that had been stated, he was still of the same opinion; neither did he think, either, his argument was so illogical, or that the cases alluded to by Dr. Hughes were so frequent as he believed; and in alluding to the fact of the hæmorrhage originating evidently in the loins, inquired how it was the muscles in that region were not congested.

Dr. Silvester thought the mucous membrane had the power of secreting blood and pus, as in hæmorrhage from the uterus; the secretion is bloody, and yet there is no rupture of vessels; neither is there in bleeding from the nose or bowels, the oozing being, as it were a secretion of blood without rupture, arising from an alteration in the condition of the blood, constituting the hæmorrhagic diathesis; and concluded by inquiring if the hæmorrhage alluded to was the result of extravasation or secretion.

Dr. Hughes said he especially excepted the skin and mucous membrane, although even in the latter he believed the cases where the source of the hæmorrhage could not be ascertained were very uncommon; but as to the bloody secretion from serous membranes not being the character of serum, but of pure blood, all he could say was, that he had never seen it.

Mr. Robinson asked, why should not the peritoneum be ruptured? the pressure might have altered the texture.

Dr. P. Murphy did not believe that a serous membrane had the power of secreting either pus or blood; blood is not a secretion; and in a case a short time since, where the pericardium was full of blood, and said to be capillary exudation, the real source was found to be from the coronary vein. As to pus, it is never found except where lymph has first been effused. He had seen many cases of effused blood in the lumbar region, behind the peritoneum, of months' duration, and without injury to the system; and when the peritoneum has at length been opened, it has been by progressive absorption, as in aneurism.

The President then made a few remarks as to the generally received opinions respecting the pathology of hæmorrhage, when the Society adjourned.

MEDICAL SOCIETY OF LONDON.

Monday, November 27, 1848.

MR. HANCOCK, PRESIDENT.

Treatment of Cholera by Chloroform—Emetics and Cold Drinks—Is Cholera leaving us?

DR. CLUTTERBUCK, in reference to a communication made to the Society a few weeks since, said that the cholera had gradually left the Peckham House Asylum, and that they had had no case there since the 16th. The chloroform, in all the cases which had occurred, had sustained the character which he had given it at first, and it was invariably and uniformly successful in relieving the more painful and severe symptoms. He did not regard it as a cure for the disease, but it arrested the more imminent symptoms, and gave the patient time to rally out of the stage of danger. He still regarded cholera as not a specific disease, and that no specific remedies were called for.

A MEMBER mentioned a case in which the inhalation of chloroform had been used, with success, to relieve most painful cramps in the extremities: they were unconnected with cholera.

Mr. DENDY believed that many cases were returned and registered as malignant cholera which were simply diarrhœa. He mentioned two cases in point.

Mr. SHEARLEY made a long statement with reference to the treatment of cholera, in 1832, by nitrous acid. This remedy had been employed with much success by Dr. Hope among the convicts at Woolwich.

Mr. PILCHER said that, however successful the inhalation of chloroform had been in the asylum at Peckham, it had signally failed at Edinburgh.

Mr. HEADLAND could not admit that cholera was really leaving us. Its disappearance from Peckham House did not warrant us in believing that the disease was retreating. The history of the plague and of other great epidemics shewed that many cases occurred before the great outbreak came on, and he believed that in this instance the cholera had hardly as yet reached us. He agreed with Mr. Dendy respecting the erroneous returns which were occasionally made as to the disease, and mentioned an instance in which a case of tape-worm was registered as cholera. With respect to chloroform it was extraordinary that a remedy so generally known had not arrested, to some extent at least, the disease in Berlin and Vienna, in which cities the mortality from the disease was very great. We yet know scarcely anything of the nature of cholera. What was it? It was an error to suppose that it was a disease merely consisting of vomiting and purging, which were, in reality, the mere symptoms of a diseased condition of the system. The following might be regarded as the summary of our knowledge regarding treatment:—1. By stimulants, unsatisfactory; 2. Calomel, unsatisfactory; 3. Emetics alone the best treatment, less satisfactory when combined with calomel. The more simple the treatment the better. What was the experience of members respecting warm applications to the surface, particularly warm baths?

Mr. PILCHER said in Berlin the cold douche was applied with the view of bringing on reaction. It had been ascertained by the Germans that the mucous membranes throughout the body in cholera were all similarly affected, all of them being attacked, and the epithelial cells removed.

Mr. STEDMAN had seen much of the cholera in 1832: the nitrous acid was a scarcely more successful application than any other. It formed with water a grateful drink.

Mr. HIRD spoke of the necessity of arresting the profuse diarrhœa in cholera, and eulogized the treatment by acetate of lead, and minute doses of opium, as prescribed by Dr. Graves, of Dublin. He agreed with Mr. Headland as to the value of emetics in producing reaction. He knew nothing of the warm bath in this disease, but had found benefit from frictions with mustard.

Mr. DENDY said it might be and was necessary to arrest the "profuse diaphoresis of the intestines" in cholera, but still that was not curing the disease—the cause lay deeper. He made some remarks on the value of giving cold drinks in large quantities, to supply the fluid parts of the blood carried off by the intestines. The warm bath was injurious.

Mr. STEDMAN considered the free use of cold drinks beneficial. Hot baths were injurious.

Mr. HEADLAND said that the diarrhœa would go on as long as the cause of cholera continued in the system. He believed acetate of lead to be of little or no use, and contended that, in recommending this medicine in cholera, Dr. Graves had contradicted himself; for he had said acetate of lead was of no use in diarrhœa, except when it was accompanied by tympanitis. Now in cholera there was no tympanitis. It was remarkable that when vomiting was most persistent, in those cases the diarrhœa was less.

WESTMINSTER MEDICAL SOCIETY.

November 18, 1848.

J. WEBSTER, M.D., F.R.S., PRESIDENT.

Morbid appearances from Suffocation.

MR. CANTON gave a detailed account of

met with in the examination of the bodies of three children, two of which had been "overlaid," and the third intentionally suffocated. Each case had been the object of judicial inquiry. The subjects were only a few months old.—*Exterior of the body:* Features placid; lips congested; eyes not unduly prominent; conjunctivæ rather extra vascular; hands clenched; no blotches of ecchymosis to be anywhere detected.—*Head:* Patches of effused blood, here and there, beneath the pericranium; cranial bone engorged with blood. In two cases, great congestion of the pia mater, accompanied by numberless subjacent sanguineous extravasations, varying in size from a pin's point to a silver penny in all its superficial extent; no such effusion within the brain or its contained membranes; a litttle clear fluid in the ventricles. In the third case the intra-cranial appearances were natural, whilst those of the skull bones and pericranium were the same as described. A little clear frothy mucus in the trachea and bronchi, with redness of their lining membrane.—*Thorax:* No fluid within, or adhesions across, the pleural cavities. Lungs much congested and crepitant, whilst beneath the visceral and reflected pleuræ, blood had been everywhere effused, presenting numerous small bright red patches, and fine points; all the blood of the substance of the lungs was *within* its vessels. The pericardium contained some serum, and was spotted in its whole extent after the manner described; the vasa vasorum of the heart's great vessels and thoracic aorta were minutely injected. In one case there was a quantity of blood extravasated posteriorly, and especially on the left side, in the groove between the auricles and ventricles, as though the coronary vein had been ruptured: this latter point, however, was not ascertained. In this instance, too, the substance of the heart, particularly its left ventricle, was so soft as to become readily pulpy on slight pressure between the finger and the thumb. The right cavities in all the cases were replete with dark liquid blood; the left ones nearly empty; the tissue of the organ free from extravasation. The surface only of the thymus gland was mottled like the heart. No unnatural appearance within the abdomen. Mr. Canton inquired if any member of the Society had met with *similar* appearances in these cases, as those *relating* to the ecchymosis were not, he *believed*, mentioned by medico-legal *authorities*.

Dr. E. MURPHY *suggested* that the appearances might *have been* the result of enlargement *of the thymus* gland.

Mr. CANTON *said in* only one case was this gland *enlarged, and* no symptom of such *state existed during life.*

Mr. HIRD exhibited a specimen of a portion of pericardium, on the right side of which was a pendant cyst, communicating with the cavity of that membrane by a slit-like opening. The preparation was obtained from a dissecting-room subject, aged sixty-five years, and no history was attached. Six ounces and a half of fluid were contained in the pericardium and cyst together. The walls of the latter were composed of pleura externally, and serious pericardium within. The surface of the heart was rough from an old effusion of lymph, and the mitral valves presented vegetations.

On Gout and Phthisis.

Dr. GARROD read a paper on the simultaneous progress of cases of gout and phthisis. He was induced to bring this subject before the notice of the Society, as in a paper on phthisis, communicated during the last session, it was asserted that a gouty condition of the system or blood was inimical to the development of tubercular disease, and it was suggested that, for the purpose of preventing or curing the latter affection, an attempt should be made to produce a gouty diathesis; and even the internal administration of urate of soda was hinted at. Dr. Garrod first spoke of some recent researches he had made on the subject of gout, which will appear in the volume of the *Transactions* of the Royal Medico-Chirurgical Society, now in the course of publication, and described what he considered to constitute a gouty condition of blood, alluding to the presence of an excess of uric acid, before and during the paroxysms, in acute gout, and as an almost constant accompaniment in those forms of the disease where tophaceous or chalk-like deposits take place in different parts of the body. Dr. Garrod then stated, that if the gouty and tubercular diathesis were antagonistic, phthisis would never become developed in the inveterate forms of gout above alluded to. To prove, however, the fallacy of the idea, the following case was related:—A young man, aged twenty-eight, a native of London, whose father and grandmother had suffered from gout, applied for relief at University College Hospital, and was admitted under the care of Dr. Williams. He was a painter by trade, and for some years he had been of very intemperate habits, but until the last few had had plenty of food and clothing. From the age of seventeen, he had suffered from what he termed "rheumatism," (gout?) but had had an affection of the heart with it. Formerly he was of full habit, but about three years since began to lose both flesh and colour, although he did not feel particularly ill, and had no cough at the time. He was soon after seized with an attack of gout, both in his feet and hands; tophaceous deposits formed, and he was confined to his bed for twenty-eight weeks. About two months after his recovery, he was again attacked, and then had a severe cough, with expectoration of a greenish hue. The pectoral symptoms continued for about four months, the gouty two months longer. From this date, until his admission into the hospital, he was constantly suffering from chest affection and gout; hæmoptysis had occurred once, and deposits of urate of soda frequently came away from his joints. When admitted into the hospital he was pallid and emaciated; complained of pain in various joints, arising from gouty inflammation; also of pain in his side, cough, and expectoration of a muco-purulent character. On physical examination, clear evidence was found of the existence of tubercular deposition in both lungs, especially the left, at the apex of which, a distinct cavity was indicated by the production of pectoriloquy and cavernous respiration: during the remaining month of his life, the gouty affection continued to progress, now appearing in one part, now in another, and occasionally with the discharge of urate of soda from some of the joints. The thoracic affection also continued to advance, accompanied with hectic symptoms, increase of cough, and sharp pain in different parts of the chest, until he fell into a state of stupor, and so continued for a day or so, when death took place. The post-mortem appearances fully proved the accuracy of the diagnosis. At the apex of the right lung a cavity was found large enough to contain a walnut, the rest of the lung being studded with scattered tubercles in different stages of development. The apex of the left lung was excavated to the depth of four or five inches, and the remaining portion was sprinkled throughout with grey tubercles. The heart was healthy; the liver had patches of soft tuberculous deposit on its surface; the kidneys were small, and many of the tubuli filled with a white matter, consisting of crystallized urate of soda and uric acid; spleen enlarged. Mucous membrane of the colon ulcerated in patches. An examination of the blood was also made, and it was found to contain a very large amount of uric acid, larger than Dr. Garrod had ever before obtained. Some remarks were then made on other cases, in which gout and phthisis existed together; the rarity of the combination being easily accounted for, by the fact that gout in general does not appear till after the age of forty, whereas tubercular disease is much more frequent before that period. It also appeared very doubtful to the author whether, granting the correctness of the hypothesis advanced in the paper alluded to, a gouty condition of blood could be induced by the internal administration of urate of soda.

A discussion of some length ensued, for which we cannot find space.

Saturday, November 25, 1848.

MR. HIRD, PRESIDENT.

DR. WEBSTER made some

Remarks on the Statistics, Pathology, and Treatment of Puerperal Insanity,

and entered into several elaborate yet interesting statements respecting the frequency of puerperal insanity compared with other varieties of mental disease. To illustrate this point, he stated, that in 1091 curable female patients recently attacked by insanity, and admitted into Bethlem Hospital, during the last six years, 131, or one-eighth of the whole, were puerperal cases; thus showing that the malady is not so unfrequent as many may perhaps believe. Again, as to the curability of this form of mania, more recoveries were reported than in the other varieties of lunacy; 81 puerperal patients having been cured, or at the rate of 61.83 per cent.; whereas the average recoveries during the last twenty years, in all cases of insane females treated at this institution, was 53.67 per hundred. Hence, three in every five cases of puerperal insanity may be confidently expected to get well within a year. In regard to hereditary tendency to mental disease, 51 of the 131 patients were so predisposed, or 39 per cent.; whilst 41 were suicidal, being at the rate of 31 in every 100. Both these peculiarities are of much importance in this malady, and materially influence the disease, its progress, and result. The total deaths in the 131 puerperal patients amounted to six, or four and a half per cent., thus making the average rate of mortality nearly the same as in other species of insanity, taken collectively. The particulars of the fatal cases, and pathology, next occupied attention, and he (Dr. Webster) stated, that three of the six patients who died were suicidal and hereditary; one was only hereditarily predisposed to insanity, but not suicidal; whilst two, it was reported, had neither of these peculiarities; and none were insane previously. In addition to these facts, Dr. Webster also mentioned, that half the deaths occurred in patients who were not affected longer than fifteen days, the shortest period being eleven days, and all were attacked by insanity within seventeen days after their confinement. In none of the dissections were any morbid appearances observed in the abdomen, but the lungs always appeared diseased, as also the brain and membranes. The details of one *autopsy* were then described, as a specimen of the diseased changes of structure frequently met with in puerperal mania, the principal morbid alterations being, turgidity of the blood-vessels of the brain and membranes; large, bloody points on cutting the cerebral substance; slight serous infiltration of the pia mater, and considerable effusion of fluid in the fifth ventricle: adhesion and purulent ulceration were noticed in the left lung, with hepatization in other portions of that organ, and in the right lung partial pneumonia in the congestive stage. Although this patient had been delivered only twenty-six days prior to her death, no corpus luteum could be discovered in either ovary, nor any diseased changes of structure in the abdomen. Notwithstanding it appeared rather a digression, the author, in his paper, remarked, that gangrene of the lungs, however rare an occurrence in persons carried off by bodily disease, but without any mental affection, sloughing of that organ was not unfrequent in lunatics. He said so from his own knowledge, and others had also made similar observations, especially in continental asylums for the insane. Dr. Webster afterwards alluded to the treatment of puerperal insanity; and considering cerebral irritation, combined with great exhaustion of the nervous system generally, to constitute the true character of this disease, and that it rarely, if ever, proves inflammatory, he thought depletion, or the use of strong antiphlogistic remedies, became very seldom admissible. Leeches appeared in some cases advisable, but even then should be applied with great caution, and their effects carefully watched. As a general maxim, the author advised the same principles to be followed in the treatment of this malady as in delirium tremens, since the nature of the two diseases was somewhat analogous. Opium, camphor, ammonia, and aromatics, with some of the diffusible stimuli, proved excellent remedies, and ought to be chiefly relied upon. When opium fails to procure sleep—so beneficial in this as indeed in every form of insanity—then conium, hyoscyamus, or Indian hemp, may be substituted. Mild purgatives, to open the bowels, and sometimes cathartics, should be prescribed; but powerful drastic medicines are seldom advisable. Enemata also are useful, and sometimes with turpentine. When the disease assumes a more chronic form, setons or issues may be made in the neck, &c. The shower-bath, from its strengthening influence, then acts beneficially, whilst tonic remedies, with more nutritious food, become necessary, and prove advantageous: indeed, low diet is very often prejudicial in insane patients, and it has been long remarked in many asylums, that improved nutriment, especially in lunatics who have previously suffered privations, frequently becomes a powerful means for promoting recovery. In recent cases of puerperal insanity, when the circulation is accelerated, accompanied by evident congestion of the brain, leeches to the temples and behind the ears, or blisters, might then be applied, and afterwards cooling lotions, with ice to the head; whilst tartar emetic, or ipecacuanha, in nauseating doses, and digitalis, may be administered for the same object. Besides medical treatment, moral means, with judicious occupation and amusements, when proper for the patient, must not be overlooked, as these very often constitute aperitive adjuncts in the management of the insane. With the view of briefly illustrating the symptoms and treatment proper to pursue under ordinary circumstances, the author next narrated two cases of puerperal insanity, one being affected with mania, the other with melancholia. In the first, or maniacal case, the patient, a single woman, aged 21, whose child did not survive, had hereditary tendency to mental disease, but was reported not suicidal. She was very noisy, incoherent, often much excited, frequently very wild, violent, exceedingly mischievous, used bad language, destroyed her clothes, and paid no regard to personal cleanliness. Took food voraciously, was very restless at night, and dirty in bed. Pulse generally quick, and bowels constipated. The remedies employed consisted of opening medicines, cooling saline mixtures, and croton oil, on one occasion, with regulated diet. Subsequently, bodily occupation and amusements were put in requisition, whereby the patient soon became convalescent. The second case was an example of the variety denominated melancholia. In this patient, a married woman, aged 30, suicidal and hereditary tendency to mania existed. She was hasty in temper, but naturally cheerful. The attack commenced a month after delivery, and her child was weaned when six weeks old. Had been much debilitated by hæmorrhage after labour; appeared often very depressed; melancholic; generally very desponding of her insane state, and had attempted to injure herself. She took food very unwillingly; could not sleep at night; would scarcely remain in bed, and endeavoured to escape from her room. Pulse of natural frequency, and bowels regular. Early in the disease leeches were once applied to the temples, and afterwards blisters to the neck on three occasions. Opiates and camphor were prescribed, with purgatives, especially the compound decoction of aloes. Latterly, the cold shower-bath and tonic medicines were employed. The diet, at first light, was subsequently more nutritious, with malt liquor, by which means, and proper occupation conjoined, as the patient improved, with amusements, she recovered. In concluding his paper, of which the above report is merely an abstract, the author made a few observations respecting the employment of restraint to persons labouring under lunacy in any form. Dr. Webster is decidedly opposed to the use of such severe measures; and said, if improper in ordinary cases of mania, mechanical coercion was even more inapplicable to puerperal insanity; and whenever the straight-waistcoat is adopted lest the patient might injure herself—the excuse commonly assigned by attendants—the exasperation and excitement then exhibited appear more frequently a consequence of, than a warrant for, such barbarous proceedings. This is found to be especially true in respect of suicidal patients; since experience amply demonstrates that the mechanical restraint of insane persons so disposed, and even of individuals who have never shown any propensity of the kind, often acts as a highly exciting cause of suicide. The degradation which even lunatics feel, when thus treated like criminals, frequently produces most injurious effects upon the weakened mind of the sufferer, and if the insane patient subjected to such cruel treatment be a female of delicate constitution, susceptible feelings, high accomplishments, and of education, the objections to straight-waistcoats, or similar means, become much stronger, as the results, in all likelihood, will prove more disastrous.

Dr. **Murphy** was of opinion that the antiphlogistic treatment, in cases of puerperal insanity, was very dangerous. He had found opium, where nervous power was deficient, a valuable stimulant. Cases which occur during lactation he considered very fatal. He briefly alluded to puerperal fever being sometimes mistaken for this disease. Puerperal insanity, he stated, was rarely seen in lying-in hospitals, one case in 1000 being about the average to the women delivered in the Dublin Lying-in Hospital. He concluded his remarks by asking Dr. Webster whether he considered that lactation favoured the development of this disease?

Dr. **Lankester** was decidedly averse to an antiphlogistic treatment in this disease, which he considered closely allied to chorea, epilepsy, and hysteria, in its general characters. He further added, that however well diseases formerly bore bloodletting, he considered the present type of diseases strongly contraindicated its use.

Mr. **Hilton** had had recourse to bloodletting in these cases, upon the recommendation of the late Dr. D. Davis, and had found it of great service in the case of a poor woman, who was bled copiously on two separate occasions, and who had administered to her active purgatives, with calomel and opium.

Dr. **Skiers** considered bleeding of great service where the lungs were healthy.

Dr. **Webster**, in reply, stated that diseases in the present day rarely require the use of the lancet. That restraint, in puerperal insanity, was more commonly had recourse to in France than in England. That this disease is more frequent and fatal in the upper than in the lower classes of society. That the suicidal and hereditary cases of insanity are less tractable, and more fatal, than the other forms of this disease. That the melancholic cases are more protracted, and less curable. That over-lactation is no doubt a frequent cause of insanity, which, however, is generally very curable. In conclusion, he wished it to be clearly understood that his statistics had reference to the number of insane patients admitted into Bethlem Hospital, and not to the number of women delivered.

Correspondence.

THE ADMIRALTY AND NAVAL ASSISTANT-SURGEONS.

Sir,—It is the intention of the Admiralty, in consequence of the remonstrance of the Royal College of Surgeons of London, of the Universities of London and Edinburgh, and the Royal College of Physicians of Edinburgh, on the degrading treatment to which medical gentlemen have been subjected, on board Her Majesty's ships, to allow one solitary cabin on board each ship, but to exclude the assistant-surgeons from messing with the chaplain and surgeon.

We temperately reject this compromise. This half measure is an acknowledgment that we have been unfairly treated.

In the American and Swedish navies, the assistant-surgeons have cabins, servants, and a seat at the lieutenants' table. With precedents like these in other navies, and an order in Council of 1805, which gives us the rank and privileges of our army compeers, it is not to be supposed that we can accept anything like a compromise from the Board of Admiralty.

We respectfully entreat the different medical examining bodies not to cease labouring for us until every assistant-surgeon in the navy is constituted a wardroom officer; such a necessary change is only opposed by stupidity and prejudice, and we are so thoroughly impressed with the justice of our claims, that we are resolved never to relinquish them.—I am, sir, your obedient servant,

An Assistant-Surgeon, R.N.

Nov. 27, 1848.

ADDITIONAL MUSCLES OF THE LOWER EXTREMITY. BY C. H. DE BEHN.

In the dissection of a subject in the London Hospital, during the present session, I observed a muscle arising from the lower part of the line of union between the biceps and semitendinosus, by a small tendon about an inch long. It there formed a fleshy riband-shaped muscle, the belly of which was about a third of an inch broad and nine inches in length, extending down the inner border of the popliteal space, outside the semitendinosus, and behind the semimembranosus and inner head of the gastrocnemius. It terminated in a flat tendon, which, after a short course, bifurcated, one division going to be connected with the fascia over the gastrocnemius and inner and middle part of the leg, the other to the outer part of the leg.

Notwithstanding the high development of this muscle, the action of which was evidently to make tense the fascia, the plantaris existed of its natural size. A similar, but not so highly developed muscle existed on the right extremity.

Medical Intelligence.

UNIVERSITY OF LONDON.

M.D. EXAMINATION.—1848.

Monday, Nov. 27.—Morning, 10 to 1.

Cousin and Butler's Analogy.

Examiner, Mr. Alford.

1. To what school of philosophers does Locke belong? Illustrate its character and tendency from his works.

2. Who were his most celebrated followers? Trace the tendency of the school through their writings.

3. What great mistake, according to M. Cousin, has Locke committed at the outset of his Essay. Give the substance of Cousin's remarks on Locke's confusion of the logical and chronological conditions of our ideas, and exemplify them. Do those remarks appear to you to be just?

4. Give a brief outline of the contents of the Essay on the Human Understanding.

5. Explain the word "Analogy" as applied to Butler's argument: and give a summary of the principal points treated of in his Part I.

6. State at length the reasoning by which he establishes the *justice* of the moral government of God.

Bacon and Stewart's Outlines.

Examiner, Mr. Burcham.

1. In what sense is the word *axiom* used by Bacon? Distinguish between it and a geometrical axiom.

2. To what three faculties does Bacon refer all knowledge? What objections may be made to such a distribution? Explain accurately his inductive method, and point out the difference between that and other methods of induction.

3. "Doctrina de Idolis similiter se habet ad interpretationem naturæ, sicut doctrina de Sophisticis Elenchis ad Dialecticam vulgarem." Explain the above, and give Bacon's classification of the general sources of error.

4. What does the term *consciousness* denote? Why cannot we properly be said to be conscious of our own existence? How do you explain the question of *mental identity?*

5. "La philosophie, oubliant ce qu'elle doit aux signes de la pensée, a quelquefois accusé la parole d'être un obstacle au mouvement de l'esprit et aux progrès de la raison. Aucune erreur ne semble plus naturelle quand on songe aux vices des langues, aux abus qu'on en ont toujours fait, et que ne cessent d'en faire les passions et l'ignorance. Combien, cependant, une telle erreur est éloignée de la verité! car, si l'intelligence de l'homme est l'ouvrage de l'analyse, que serait elle sans des signes, instruments nécessaires de l'analyse? Que serait elle, surtout, sans le signe par excellence, la parole?" Translate the above, and show that language is necessary to intellectual improvement.

6. State and criticise Clarke's *à priori* argument for the existence of a Deity.

Afternoon, 3 to 6.

Commentary on a Case in Medicine—Celsus de re Medicâ—Case in Medicine.

Examiners, Dr. Billing and Dr. Tweedie.

A. M., aged 22, of intemperate habits, was subject to occasional attacks of articular rheumatism, one of which was accompanied by severe pain in the left side, cough, and expectoration tinged with blood. Seven days afterwards, the pain and swelling of the joints suddenly disappeared, and the pectoral symptoms became much aggravated.

The breathing was accelerated, the pulse quick and hard, and the sputa tenacious, but uncoloured. The heart was felt to pulsate two inches to the right of the sternum under the fourth rib: the lower two-thirds of the left side of the thorax were dull on percussion, as well as a portion of it two inches to the right of the middle of the sternum. Over the upper third of the left side of the chest the respiratory murmur was pure but intense; in the lower two-thirds it was absent, with the exception of a blowing tubal sound heard at the side of the spine. It was natural over the right side, except over the lower portion, where it was rather coarse. Œgophony was strongly marked behind the left side, and slightly behind the right. A fine friction-sound was audible over a very small spot to the right of the lower end of the sternum, which ceased when the breathing was suspended. The disease progressed, and death took place three weeks from the commencement of the symptoms.

State your opinion, 1, as to the nature of the disease; 2, describe the morbid appearances you would expect to find on inspection of the body after death; and 3, mention the indications of treatment, and the measures you would have adopted.

Celsus.

Examiners, Dr. Billing and Dr. Tweedie.

Nonnunquàm etiam lentæ febres sine ullâ remissione corpus tenent; ac neque cibo neque ulli remedio locus est. In hoc casu medici cura esse debet, ut morbum mutet: fortassè enim curationi opportunior fiet. Sæpè igitur ex aquâ frigidâ cui oleum sit adjectum, corpus ejus pertractandum est, quoniam interdùm sic evenit ut horror oriatur, et fiat initium quoddam novi motûs; exque eo, quùm magis corpus incaluit, sequatur etiam remissio. In his frictio quoque ex oleo et sale salubris videtur. At si diù frigus est, et torpor, et jactatio corporis, non alienum est in ipsâ febre dare mulsi tres aut quatuor cyathos, vel cum cibo vinum benè dilutum. Intenditur enim sæpè ex eo febris; et major ortus calor simul et priora mala tollit, et spem remissionis, inque eâ curationis ostendit. Neque herculès ista curatio nova est, quâ nunc quidam traditos sibi ægros, qui sub cautioribus medicis trahebantur, interdùm contrariis remediis sanant. Siquidem apud antiquos quoque ante Herophilum et Erasistratum, maximèque post Hippocratem fuit Petro quidam, qui febricitantem hominem ubi acceperat, multis vestimentis operiebat, ut simul calorem ingentem sitimque excitaret. Deindè, ubi paulùm remitti cœperat febris, aquam frigidam potui dabat; ac si moverat sudorem, explicuisse se ægrum judicabat: si non moverat, plùs etiam aquæ frigidæ ingerebat, et tùm vomere cogebat. Si alterutro modo febre liberaverat, protinùs suillam assam et vinum homini dabat: si non liberaverat, decoquebat aquam sale adjecto, eamque bibere cogebat, ut movendo ventrem purgaret. Et intra hæc omnis ejus medicina erat: eaque non minùs grata fuit his quos Hippocratis successores non refecerant, quàm nunc est his quos Herophili vel Erasistrati æmuli diù tractos non expedierunt. Neque ideò tamen non est temeraria ista medicina; quia plures, si protinùs à principiis excepit, interimit. Sed, quùm eadem omnibus convenire non possint, ferè, quos ratio non restituit, temeritas adjuvat: ideoque ejusmodi medici melius alienos ægros, quam suos nutriunt. Sed est circumspecti quoque hominis et novare interdùm, et augere morbum, et febres ascendere; quia curationem ubi id quod est non recipit, potest recipere id quod futurum est.—*Lib.* III. *Cap.* IX.

[To be continued.]

THE CHOLERA IN EDINBURGH.

There has been as yet no decrease in the cases of cholera reported in this city. The number of cases on Wednesday was 4, on Thursday 17, and Friday 12. The deaths were, on Wednesday 2, Thursday 9, and Friday 7. The cases remaining on Friday were 134. The disease appears to have left Leith, for the reports from it are a complete blank, both as regards new cases and deaths; but there are 126 cases remaining under treatment. The total number of cases in Edinburgh and Leith since the 4th of October, has been 822; deaths 400, recoveries 162, and remaining at Friday's date 260. From the county districts we learn that there were two new cases in Inveresk parish on Tuesday, and one case occurred the same day at Cramond. In Corstorphine, one case was reported on Wednesday, but the patient is recovering. In Loanhead, one new case was reported on Thursday. Total number of cases, 62; deaths, 39; recoveries, 20; still under treatment, 5. Three new cases were reported at Gillmerton on Thursday. Typhus fever is very prevalent at Musselburgh. The disease has, to all appearance, ceased in Portobello.

CHOLERA IN GLASGOW.

The cases reported at the police-office were, on Tuesday 8, and on Wednesday 6. No cases of this malady were reported at the central police-office on Thursday. Much dissatisfaction exists in Glasgow, in reference to the non-official manner in which the cases have been reported.

THE CHOLERA AT DUMFRIES.

Scarcely any town of the same size suffered so much from cholera as Dumfries in 1832; and at this time its ravages are more extensive than they are anywhere else in Britain, in proportion to the population. The disease manifested itself here, for the first time on this occasion, on the 16th of November, a man named Thomas Taylor, a baker, having been seized on that day, and fallen a victim after 27 hours' illness. His son was seized and died on Nov. 19th, which was the second case, and the malady has since progressed for a while slowly, but latterly in a manner fitted to excite alarm. On Nov. 29, the medical reports given in to the Parochial Inspector show that the disease is of no trifling character. No fewer than 18 new cases, five being fatal, were announced, larly as compared with a place like Edinburgh, where the *maximum* of cases reported in a day has only been 17. Previous to this day the patients have been principally of the necessitous class, though as yet no pauper on the roll has been overtaken by the malady.

The town has much need of sanitary reform, and to the want of this much of the virulence shewn by the disease is doubtless to be attributed. Arrangements are being made to clean the streets and courts effectually in terms of the late Nuisance Act, and it is to be hoped these and efficient medical aid will check the progress of the disorder. The weather for the last ten days has been very damp and unwholesome, and gives no intimation of improvement. The reports of cases up till Nov. 29, at 11 o'clock, are here subjoined:—Nov. 16, 1—fatal; 19th, 1—fatal; 20th, 1—fatal; 21st, 4—fatal 3; 22d, 6—no death; 23d, 6—fatal 5; 24th, 2—fatal 2; 25th, 3—fatal 1; 26th, 4—fatal 2; 27th, 12—fatal 3; 28th, 6—fatal 1; 29th, 18—fatal, 5; being 64 cases in all, and 25 deaths. There have, in addition, been two slight cases in the neighbouring burgh of Maxwell Town, and, as one medical gentleman has not given his entire report, it is presumed that a few more cases have occurred in Dumfries besides those enumerated above.

ALLEGED APPEARANCE OF THE CHOLERA IN IRELAND.

A CASE of this disease, occurring in the person of an Irish pauper, who arrived from Glasgow on Saturday last, was received into the Belfast Union Fever Hospital yesterday morning. It appears that the patient had lived for some months back in a close in the Horse Wynd, Edinburgh. On Wednesday last, a man was seized in the same house with cholera, and died, after 12 hours' illness, before the next day. Two others, resident either in that house or in the Wynd, also died. The authorities of Edinburgh then removed the patient, now in the Union Hospital, into their town's house, and on Friday sent him on here with the usual pass to Ireland. On Thursday and Friday, and also after his arrival here, he had the diarrhœa which usually precedes cholera, along with vomiting. On Saturday, as he was unable to proceed on homewards, a provisional order was obtained admitting him to the union workhouse. Th[illegible] he made no complaint of illness to any[illegible] either during Saturday or Sunday, and it was only yesterday morning that the attendant of the house surgeon was called to the [illegible] patient

By his orders he was promptly removed into a well-heated ward, and had every application that skill and experience could suggest. For some hours, in the early part of the day, he seemed to rally a little, but towards evening he again began to sink, and died about half-past seven o'clock. The case was visited during the day by a great many medical gentlemen of the town, who had had previous experience of cholera; and they unanimously pronounced it to be one of that so frequently fatal disease.

ELECTION OF OFFICERS AND COUNCIL OF THE ROYAL SOCIETY.

AT the Anniversary Meeting, on the 30th ult., the following noblemen and gentlemen were elected officers for the ensuing year:—

President.—The Earl of Rosse.

Treasurer.—George Rennie, Esq.

Secretaries.—Samuel Hunter Christie, Esq. M.A.—Thomas Bell, Esq.

Foreign Secretary.—Lieut.-Col. Edward Sabine, R.A.

Members of the Council.—George Biddell Airy, Esq. M.A.—Sir James Clark, Bart. M.D.—John P. Gassiot, Esq.—Thomas Graham, Esq. M.A. — William Robert Grove, Esq. M.A.—Leonard Horner, Esq. —Sir Robert H. Inglis, Bart. LL.D.—John George Shaw Lefevre, Esq. M.A.—Sir Charles Lyell, M.A.—William Allen Miller, M.D.—The Marquis of Northampton—Richard Owen, Esq.—John Phillips, Esq. —Peter Mark Roget, M.D.—The Dean of Westminster—Charles Wheatstone, Esq.

KING'S COLLEGE HOSPITAL.—REPORT ON THE STATE OF THE CHARITY.

ON the 30th ult. a meeting of the governors of this charity was held at the hospital in Portugal Street, for the purpose of receiving a report of the state of the institution; Mr. D. Fisk in the chair. The report of the committee stated that they had at length been enabled to purchase the Grange estate, together with the two houses belonging to Mr. Wood in Clement's-lane, thus allowing of the advantage of a frontage in Carey Street to the proposed addition to the hospital, and also a frontage to the new street about to be formed. The cost of the whole amounted to £7,500, the ground being 215 feet in length and 60 feet in width. The choice of any other piece of ground would have involved the necessity of having a portion of the hospital out of the parish of St. Clement Danes, and that would have diminished the income of the hospital by £300 per annum, now received from the Holborn Estate Charity. The report set forth that the sum of £3,500 subscribed to the building fund had been given in part payment, and that the medical officers and Mr. Sambrooke had rendered themselves responsible for the remaining £4,000, and it urged the governors to take prompt steps to relieve them of the liability. During the past half-year the number of out-patients had greatly increased, 10,553 having received medicine and advice. In 1847 the total number of out-patients was 17,901, and that showed for the present half-year an excess in the number of out-patients of 1,603. The number of patients in the hospital during the past half-year was 748, and of these 567 were discharged cured or relieved, 5 were incurable, 20 were dismissed for disorderly conduct, 48 died, and 108 remained in the house. Of the out-door patients there were 218 poor married women attended during their confinement. The total number of patients admitted from the opening of the hospital was—in-door, 10,184; and out-door, including 2,095 poor married women attended during their confinement, 112,213; making altogether 122,997. This report was received and adopted; and after a short conversation, it was announced that the details of the plan of the governors would be announced before the next meeting.

LONDON HOSPITAL—REPORT ON THE STATE OF THE CHARITY.

A QUARTERLY general court of the governors of this institution was held on the 6th inst., when the following returns were received:—The patients discharged during the last quarter amounted to 1,101, of whom 648 were cured, and 397 relieved; 56 patients died. The patients now in the hospital were 316, and there were 2,549 out-patients on the books. The new buildings are completed, but the committee requested the assistance of the public to render the funds commensurate with the increased capabilities of the hospital. In 1846 the expenditure, including repairs, extensions, and improvements, amounted to £16,736. 3s.; and in 1847, to £15,146. 12s. 10d. The estate and effects of the hospital at the commencement of the present year was £190,431. 9s. 5d.; whilst the debts due amounted to £2,619. 18s., and this showed an improvement this year in the hospital estate of £2,826. 14s. 9d. Since the last report 22,152 patients had been admitted; and the mortality in the hospital had very much decreased during the last few years, and more especially since the completion of the new sewers and the discontinuance of the use of heated air in the wards. In 1837 the deaths were 14 per cent. on the number of patients. In 1839, when the sewers were completed, the deaths were 9½ per cent. After the opening of the new wing, in 1842, the deaths decreased to 8 per cent., and 7 and 6 per cent. in the two following years; and in 1847 the deaths were 6¾ per cent. The greatest number of deaths which occurred in one year was in 1835, when 418 patients died, being rather more than 150 above the average. The quarterly report was then received and adopted, and the meeting separated.

OBITUARY NOTICE OF PROFESSOR SAMUEL COOPER, F.R.S.

IT is with regret that we this week announce the death of Professor Samuel Cooper—a man whose name has been well known to the profession for more than thirty years, and who deservedly enjoyed a high reputation, not only as a surgeon, but as a most successful contributor to medical literature.

Mr. Cooper received his professional education at St. Bartholomew's Hospital *nearly* fifty years ago. He was apprenticed to Mr. Ransden, surgeon to that institution; and he received his diploma as a Member of the Royal College of Surgeons in the year 1803. After having occupied himself for a short time in practice, he entered the medical department of the army, and in this, from his superior professional attainments, he very soon rose to the rank of Staff-Surgeon. In this capacity he served in Holland and in the Mediterranean. He was also in active service in the Netherlands after the battle of Waterloo.

Mr. Cooper formerly held the office of surgeon to the Fleet and Queen's Prisons. He is, however, better known to the profession, by his having held for the period of seventeen years the office of surgeon to University College Hospital, as well as the Professorship of Surgery in University College. Our readers are aware that he resigned these offices in April last. As a teacher, he was, we are informed, much beloved by his pupils; but ill health had compelled him of late years to resign a portion of the duties attached to the Professorship of Surgery.

The deceased, it has been stated, was admitted a member of the Royal College of Surgeons so long ago as October 7, 1803. In 1807, he obtained the Jacksonian Prize, for an elaborate treatise on the joints; and on the 26th May, 1827, he was elected a member of the Council of the Royal College of Surgeons. In 1832, on the anniversary of the birth of Hunter, he had the honour of delivering the annual oration, in memory of the founder of the Hunterian Museum. In 1835 he was appointed an examiner; and in 1845 he was elected to the highest honour he could obtain—viz. the office of President of the Royal College of Surgeons. He was also a Fellow of the Royal Society.

The works which have conferred on Mr. Cooper a high reputation, and have made him a universal teacher of the present race of practitioners, are his "Surgical Dictionary," and his "First Lines of Surgery." The former work has been most widely circulated: it is, we need hardly say, a monument of industry and accurate research, which would alone suffice to confer upon the author a lasting reputation in medical literature. It has passed through many editions, has been translated into several languages, and is diffused as a standard work on surgery through all countries.

Mr. Cooper died on the 2nd inst, at his house at Shepperton, Middlesex. He was in the 68th year of his age. In him the profession may be considered to have lost a useful and worthy member.

DR. CLENDINNING, F.R.S.

We have also this week the painful duty to record the loss the profession has sustained in Dr. Clendinning.

He was educated at Trinity College, Dublin, where he obtained the degrees of M.A. and M.D.; from thence he proceeded to Edinburgh, and graduated as M.D. He then made long sojourns at Gottingen and other continental Universities. On his return he obtained his *ad eundem* at Oxford.

On settling in London, he became physician of the Western Dispensary, and afterwards of the St. Mary-le-bone Infirmary, which he held to the time of his death.

He had passed through various offices in the College of Physicians. Last year he was senior Censor. He also served in several offices in the Royal Medical and Chirurgical Society. Under an ungainly exterior, and not very prepossessing manners, he possessed a manly independence of character, great power of intellect, and an unswerving honesty of purpose, which secured the respect of all who knew him.

He was not calculated to succeed in general practice, he could not descend to its details; but he was, nevertheless, an accomplished physician, and enriched the pages of this journal with many able papers.

He died on Tuesday, December 5th, of malignant disease of the abdomen, under which he had lingered for several months.

DR. MAYD.

At Withersfield Rectory, Suffolk, on the 28th of September, aged 88, died John Winslow Mayd, M.D., for upwards of fifty years a resident at Epsom, during the greater part of which time he was a general practitioner. Latterly he took the degree of M.D., and for some years, being incapacitated for practice by chronic rheumatism and failure of sight, he had been in complete retirement.

He was deservedly eminent in his town and neighbourhood for great medical penetration and experience. His natural good sense, and strong sagacity, with his excellent judgment in the diagnosis and treatment of disease, rendered his opinion and advice most acceptable to his patients. He was decidedly, and in every sense of the word, a successful practitioner.

He had good scholarship, and various knowledge; the expression of his opinions and sentiments was always candid, and sometimes facetious: this rendered him a favourite with his contemporaries, and the recollection of these characteristics remains in the memory of surviving friends.

In the year 1812, Dr. Mayd, in conjunction with the late Dr. Hardwick, Mr. Wallace, of Carshalton, Mr. Stedman, of Guildford, Mr. Martin, of Reigate, and other friends, established the Surrey Benevolent Medical Society, of which he was the first President, and he rendered essential service in promoting the augmentation of the fund. —*Prov. Journal.*

RUMOURED DEATH OF DR. CHAMBERS.

In a contemporary journal, a notice appeared last week to the effect that Dr. Chambers was dead, and that a brief memoir of him would appear on an early occasion. We are happy to state that there is no foundation for the rumour. Dr. Chambers has caused a public contradiction of this announcement to be inserted in the daily journals.

OBITUARY.

On the 30th ult., at his residence, John Hooper, Esq. surgeon, 29, Newington Place, Kennington, aged 66.

On the 3d inst., at Beckenham, James Scott, Esq., formerly of Bromley, Kent, in the 79th year of his age.

On September the 27th, at Lahore, Hosier Gell Grayling, surgeon of the 14th Irregular Cavalry, youngest son of Thomas Grayling, Esq., Longport, Canterbury, aged 24.

PARIS ACADEMY OF SCIENCES.

Sitting of November 27, 1848.

M. Roux on Local Anæsthesia.

M. Jules Roux, Surgeon in Chief to the Navy, addressed a communication on the means of removing the pain consequent on surgical operations.

Since the discovery of the anæsthetic properties of ether and chloroform, we are in possession of a certain means for removing the pain of an operation; but here at present ends the practical advantages, and the surgical applications, of etherization. M. Jules Roux has sought to remove the pains which follow an operation, or which supervene during cicatrisation, and he believes that he has succeeded by the direct etherisation of the wounded surfaces. This direct and local etherisation does not appear to differ from the indirect and general etherization, except that the blood is not the intermediate agent or vehicle employed for the fluid. It is accomplished by placing an anæsthetic liquid during five, ten, or fifteen minutes, in contact with the wounded parts. This application may be made by means of a camel's hair pencil, a piece of lint, or a sponge; or, what M. Jules Roux considers preferable, by sprinkling the wounded surfaces, or filling the cavity with the anæsthetic agent. At present, M. Jules Roux has employed only aldehyde, ether, and more especially chloroform. He relates several observations which he has made in the course of his experiments, and the general result has hitherto been successful. The number of cases in which he has tried the new application are not enough, he considers, to lead to any definite conclusion on the subject, but are sufficient to excite the attention of surgeons.

M. Legrand stated, in a communication, that he had found the administration of oxide of gold prepared by means of potash, in conjunction with the powder of nux vomica, useful in cancerous affections of the stomach.

M. Briquet addressed a communication, entitled, "Experimental researches on the properties of quinine and its compounds administered in large doses, and practical studies on the employment of these substances in therapeutics." Δ

METEOROLOGICAL SUMMARY.

Mean Height of the Barometer .... 29·74
" " " Thermometer[a] ...... 46·7
Self-registering do.[b] .... Max. 66° Min. 30·5
" in the Thames Water " 0° " 0°

[a] From 12 observations daily. [b] Sun.

Rain, in inches, 0·86.—Sum of the daily observations taken at 9 o'clock.

Meteorological.—The mean temperature of the week was nearly 7° above the mean of the month of December.

BIRTHS & DEATHS IN THE METROPOLIS

During the Week ending Saturday, Dec. 2.

Births.		Deaths.		*Av. of 5 Aut.*	
Males....	700	Males....	597	Males....	581
Females..	671	Females..	570	Females..	573
	1371		1167		1154

Causes of Death.

		Av. of 5 Aut.
All Causes	1167	1154
Specified Causes	1167	1149
1. *Zymotic* (or Epidemic, Endemic, Contagious) *Diseases*..	372	270
Sporadic Diseases, viz.—		
2. Dropsy, Cancer, &c. of uncertain seat	50	52
3. Brain, Spinal Marrow, Nerves, and Senses	136	127
4. Lungs, and other Organs of Respiration	193	222
5. Heart and Bloodvessels	38	38
6. Stomach, Liver, and other Organs of Digestion	58	67
7. Diseases of the Kidneys, &c...	12	12
8. Childbirth, Diseases of the Uterus, &c.	5	14
9. Rheumatism, Diseases of the Bones, Joints, &c.	10	8
10. Skin, Cellular Tissue, &c.	1	2
11. Old Age.....	38	64
12. Violence, Privation, Cold, and Intemperance	35	32

The following is a selection of the numbers of Deaths from the most important special causes:

Small-pox	21	Paralysis	26
Measles	16	Convulsions	40
Scarlatina	127	Bronchitis	80
Hooping-cough ..	47	Pneumonia	85
Diarrhœa	24	Phthisis	123
Cholera	20	Dis. of Lungs, &c..	5
Typhus	67	Teething	7
Dropsy	19	Dis. of Stomach, &c.	6
Sudden deaths	15	" Liver, &c...	14
Hydrocephalus....	30	Childbirth	2
Apoplexy..........	24	Dis. of Uterus, &c..	2

Remarks.—The total number of deaths was 13 above the weekly autumnal average. See page 974.

NOTICES TO CORRESPONDENTS.

Mr. Albert Owen's case of Diseased Stomach will be inserted.

Dr. G. Robinson.—The report has been received, and will appear in the following number. A proof will be sent.

In consequence of the space occupied by the Proceedings of Societies in the present number, various communications have been postponed.

Mr. H. W. Fuller's letter will be published.

Received.—Dr. Sieviking.—Mr. Gilbert.

Corrigendum.—In our last number, p. 944, col. 2, first line of the review, for "transiantic," read "transatlantic."

THE GENERAL INDEX.

We have to announce to our Subscribers that a General Index to the *first* 40 *Volumes* of the London Medical Gazette will, it is calculated, form a large Volume of about 700 pages. The cost of the Index Volume, respecting which many inquiries have been made, will be Twenty-four Shillings; and it is proposed to commence it so soon as the Names of *Five Hundred Subscribers* have been obtained.—The printers, Messrs. Wilson and Ogilvy, 57, Skinner Street, will receive the Names of Subscribers.

Lectures.

LECTURES ON PRETERNATURAL AND COMPLEX PARTURITION.

By Edward W. Murphy, A.M. M.D.
Professor of Midwifery, University College, London.

Lecture VI.

UNAVOIDABLE HÆMORRHAGE.

Source of danger—Natural means of arresting hæmorrhage—The effect of dilatation of the os uteri on the utero placental circulation—Importance of the reticulate structure of the placenta—Manner in which hæmorrhage is arrested—Separation of the placenta the natural mode of arresting this hæmorrhage—Causes of failure. Complete and partial attachment of the placenta. Symptoms of unavoidable hæmorrhage—Sources of error—Vaginal examination—Treatment—Cases where hæmorrhage is only commencing—Compression of the placenta—Mode of plugging the vagina—Turning the child—Mode of operating. Case where the patient is in extreme exhaustion—Danger of turning. The question of separating the placenta discussed.

Gentlemen,—*Unavoidable hæmorrhage* is a much more serious variety of flooding than that which we have briefly described; consequently, from the time that its nature was correctly understood, its treatment received the most earnest attention: controversies, of course, have sprung up about it, and, like certain troublesome weeds, have so interlaced themselves with the subject, that is is difficult to separate the one from the other; they have also covered it with so many intricacies, and so obscured it, that it is not very easy to place the matter before you in a clear and intelligible light. The source of danger is in the attachment of the placenta to the cervix and mouth of the uterus; because, when the os uteri begins to dilate, this connection is broken through, and hæmorrhage unavoidably follows. Even before the full term of pregnancy, when the cervix begins to expand in order to form a part of the uterine cavity, the attachment of the placenta may be disturbed, and hæmorrhage be the result: hence premature labour frequently accompanies this form of flooding. The contractions of the fundus uteri, so far from checking, only increase the discharge: we are consequently deprived of the advantage which this powerful agent gives us in controlling the bleeding vessels.

XLII.—1098. Dec. 15, 1848.

The extent and danger of this form of hæmorrhage depends upon this unusual and most unfavourable position of the placenta: it would consequently seem as if Nature had neglected her usual prescience, and had not employed the same provident attention to guard against the effect of this accident that is manifested in so many other instances. "Well, (says Dr. Rigby), has a celebrated teacher (Naegele) observed, "there is no error in nature compared to this, for the very action which she uses to bring the child into the world, is that by which she destroys both it and its mother." True as this proposition seems to be, and fatally true as in too many instances it has been found, nevertheless we cannot permit you to consider it as true in its entire extent, because even here Nature endeavours to avert the consequences of this dangerous displacement. Her manner of doing so we shall briefly explain, because it is very essential that you should clearly apprehend the natural means by which such hæmorrhage might be arrested, in order to apply the resources of art with effect. Let us suppose, then, a case in which the placenta is completely attached to the mouth of the uterus, and that labour has just commenced: what takes place? The first effect of the pains must be to break the vessels passing from the margin of the os uteri into the maternal portion of the placenta. The curling arteries of the uterus are closed by coagula formed in their torn coats; they cannot, therefore, pour out much blood; such is not the case, however, with the large uterine veins when they are broken across: one fragment is an opening that communicates with the large net-work of veins in the uterus; the other leads directly into the cavernous structure of the placenta: through both these orifices blood may be discharged, being, in the former case, venous blood, flowing in a contrary direction to its course from the uterus, and in the latter, arterial blood, passing directly through the cavernous structure of the placenta, and escaping from the broken openings on its surface. Such being the sources of hæmorrhage, does the progressive dilatation of the uterus increase or control the discharge? If the former were true, Nature has committed a capital error; she sins against her great law to do nothing in vain, and gives life only to destroy it. If the latter be the case, she is consistent with herself, and even here establishes the possibility of life being preserved by her own efforts. We shall endeavour to prove the latter hypothesis, and demonstrate to you the manner in which dilatation of the uterus controls unavoidable hæmorrhage. Let us examine the effect of this dilatation on each source from which blood flows. The arterial current through the placenta is in direct proportion to the number of arteries that supply blood to the cavernous structure; but as the dilatation of the uterus increases, this number diminishes, because they are successively broken off from the placenta, and when the dilatation is completed, the placenta being detached, hæmorrhage from this source must cease, as the supply is cut off. This provision, however, would always fail if it depended upon the complete dilatation of the uterus for success. A certain period of time (some hours) may be occupied in effecting it; and if an uninterrupted current of arterial blood were flowing from the placenta for a very much shorter period, the woman would expire long before the placenta was separated. Some means of retarding or interrupting the current is necessary: and here we find the *importance of the reticulate structure of the placenta*; the blood moves slowly through it, and if it accumulate, there is a tendency to coagulate,—it acts like a sponge. Any cause compressing the placenta, which may prevent the free discharge of blood from these orifices, will cause an accumulation and consequent coagulation of blood in the spongy structure, thus preventing further hæmorrhage. The force of the fundus uteri acting on the cervix also acts upon the placenta, and exercises a pressure upon it proportionate to the strength and frequency of the pains. Thus, if the uterus retain its power, and is in full action, the tendency of its contractions is at the same time to cause and to arrest the discharge of blood from the placenta; to cause it, by breaking the connection with uterus; to arrest it, by pressure on the whole mass of the placenta. Did hæmorrhage, therefore, depend upon this source alone, it would be much more under the control of treatment than we find it. Our chief object then would be to increase the counter-pressure on the placenta from the vagina, so as to cause coagulation in its structure. We have, however, to consider another source of flooding, that derived from the exposed veins of the uterus. This venous blood regurgitates from the general venous system, and would flow freely and most dangerously so long as the cervix uteri remained expanded, and no contraction of its tissue took place, because the venous canals, and their openings of intercommunication, are fully dilated; and if any of these be exposed on the surface of the uterus, profuse venous hæmorrhage would be the result, so long as they remain in this state. But the dilatation of the os uteri is in fact the contraction of the cervix: the womb could not open unless the tissue of the cervix contracted upon itself. I do not assume that this contraction of the cervix is a muscular effort, as some suppose; it is sufficient for this explanation to admit that the cervix possesses contractility of tissue. Now this contraction of the cervix has precisely the same effect upon the veins here, as the muscular contraction of the fundus has upon them in other forms of hæmorrhage; the sinuses (as they are called) are more or less closed; the veins are compressed; the temporary valves set up, and thus the regurgitation of blood from this source prevented. As the dilatation of the uterus advances, the whole of the exposed portion of the cervix and placenta is directly compressed by the head of the child; an additional aid in preventing the escape of blood.

The natural means, therefore, of checking unavoidable hæmorrhage, is the complete separation of the placenta from its attachment to the cervix of the uterus, because by this means all the uterine arteries are broken off from the placenta, and the veins are closed by the dilatation of the uterus which is necessary to effect the separation. If we have rendered the design of Nature sufficiently intelligible, you can readily perceive why she so often fails in accomplishing her purpose, and why these hæmorrhages are so dangerous. In order to effect the dilatation of the uterus, and carry out this intention, the pains must be vigorous, and the contractile power of the uterus unimpaired: but unfortunately, in too many cases this essential element is wanting. Slight hæmorrhages may have occurred before labour, so as to weaken the tone of the uterus, or, what is more frequent, the first opening of the womb, the first rupture of the blood-vessels, is followed by such a violent gush, that the patient is exhausted, the action of the uterus is enfeebled, and the pains consequently weak and inefficient. As they proceed, and slowly separate the placenta, gushes of blood from newly ruptured vessels accompany every pain, increasing the exhaustion of the patient and the atony of the uterus, until at length the uterus has lost all power of accomplishing this object, and the patient expires. Such hæmorrhage is equally fatal to the child, because the fœtal blood is deprived of all influence from the maternal circulation; the necessary changes are not carried out, it receives no nutrition, and dies equally exhausted. The child is generally said to die from hæmorrhage of the fœtal vessels; but the fœtal vessels are not always ruptured, which is a necessary condition; however, it presents the same appearances as if they were: and hence hæmorrhage is the cause usually assigned for its death. You will perceive, therefore, that Nature has not failed to provide against the effect of this malposition, but that her efforts are generally rendered useless, because exhaustion is so rapidly induced in the patient. She is not, however, always so unsuccessful: cases are recorded of Nature alone. Professor Simpson* records 141 cases, in the majority of which the placenta was expelled safely by the natural efforts: several have been since reported, a sufficient proof of the correctness of our position.

The manner and extent of attachment of the placenta to the cervix uteri is subject to great variety, which modifies the amount of hæmorrhage and the danger of the case. The whole placenta may be applied to one side of the cervix, and only touch the os uteri just sufficiently to give a character to the hæmorrhage. It may lie over the os uteri, and a small portion be attached to the opposite side of the cervix, or it may be attached equally round the neck: thus there may be either *a partial or complete presentation* of the placenta. In the former case the complete dilatation of the os uteri is not necessary to arrest hæmorrhage: it may be treated in the same manner as accidental hæmorrhage: the membranes may be ruptured, and the liquor amnii discharged; the head will then descend upon the placenta, and compress its cavernous structure strongly against the cervix uteri, thus causing coagulation in that structure, and closing the venous openings in the cervix. In the latter case, however, this is not sufficient; and hence the extreme danger of this complication.

The *symptoms* that indicate this position of the placenta require your closest attention, because the timely notice of such an accident is of importance, in order to undertake its successful treatment. Hæmorrhage may appear at any time within the period that the cervix is expanding to form part of the uterine cavity: it may occur at the seventh, eighth, or ninth month of gestation. The manner of the hæmorrhage is characteristic: a sudden gush of blood from the uterus may take the patient quite by surprise: there was no shock or violent exertion to cause it; she had been perfectly at rest, or asleep perhaps, when, without any previous pain or notice, this discharge appears: it is too profuse to mistake for the *show*; she therefore becomes alarmed; *assistance* is hastily sent for; and, by means of rest, cold, &c., it seems to be *arrested.* It may return again in a few hours, or perhaps not for some days, when labour regularly sets in, the hæmorrhage *accompanying* the pains. At first, perhaps, it is slight, but the frightful torrent is not long delayed; after a few more pains, a gushing tide of blood from the uterus places the patient in the utmost the patient has not even this monitor: the first symptom of labour is profuse flooding, followed instantly by all its worst consequences. This peculiarity in the manner in which hæmorrhage presents itself may be considered as diagnostic of its cause, and the influence of the pains in increasing it is a further confirmation of its source. It is right, however, to apprize you of an error that may easily be committed by the inexperienced. Sometimes a slight hæmorrhage is caused by the partial separation of the membranes from the side of the uterus: a certain quantity of blood trickles down, and occupies the space between the membranes and os uteri: here it is confined; and, according to the time it remains, may be either quite fluid, partly coagulated, or, if long retained, form a firm coagulum. When labour begins, and the os uteri opens, the blood is discharged with or without coagula, or there may be a slight discharge of blood with the pains, just sufficient to excite the attendant's apprehensions. His suspicions appear to be confirmed when an examination per vaginam is made: he finds a large and firm mass occupying the os uteri, just like the placenta; and hence falls into the error that I fear is not unfrequently committed: he sets down a presenting coagulum for a placenta presentation. In such cases the hæmorrhage ceases after the first discharge, and is not renewed with the pains; and when a coagulum, such as we have described, is observed, it may be distinguished from the placenta by the facility with which the finger may be passed between it and the cervix uteri: the placenta adheres to the cervix; the coagulum does not.

An early vaginal examination is always necessary whenever hæmorrhage appears: both fingers, if not the hand, should be passed into the vagina, and the os and cervix uteri carefully examined. If the placenta present, the cervix feels more full and spongy than usual, and communicates neither the sense of fluctuation of the liquor amnii nor the firm resistance of the head. If the os uteri be open, the uterine surface of the placenta is felt presenting a minutely granular surface; the cotyledons also may be traced if the dilatation has advanced; but these characters are lost if there be any coagulation in spongy structure; the presenting part of the placenta then resembles a clot of blood, and only differs from it in seeming to be attached immoveably to the placenta. The extent of the attachment of the placenta cannot easily be ascertained: the whole cervix that protrudes into the vagina should be examined; and, if the placenta be attached more to one side than the other, the cervix will feel fuller on that side, and communicate a doughy sensation to the finger; but unless the placental margin is near the os uteri, or the dilatation is sufficiently advanced to reach the edge of the placenta, you cannot be certain about it. The moment that the situation of the placenta is detected, the practitioner must at once determine the course he is to pursue: the safety of the mother, and the possibility of preserving the child, depend solely on his promptitude and decision. Notwithstanding this necessity, the *treatment* is at the present time involved in a most inextricable controversy. I shall not ask you to unravel it with me, but rather to keep steadily in view those principles which we have laid down for the treatment of uterine hæmorrhage, and to call to mind the explanation we have given you of the utero-placental circulation: these will, I trust, serve to guide us safely through the labyrinth.

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* *Monthly Journal of Medical Science*, March 1845, p. 181-183.

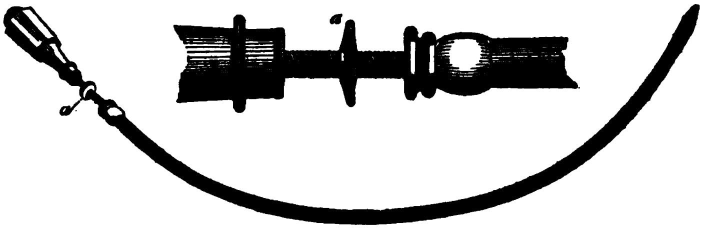
You may be called upon to treat unavoidable hæmorrhage under very opposite conditions. You may be aware of the position of the placenta before or at the moment any hæmorrhage appears: labour is only commencing; the patient is free from any exhaustion; the pains are active; you may expect the flooding, but it has not yet arrived. On the other hand, you may be sent for in great haste to save a patient who is dying from hæmorrhage. You find her pulseless, the surface cold, the uterus scarcely acting, the bed saturated with blood, and the patient gasping. If you were to treat both these cases in precisely the same manner, you would certainly commit a most serious mistake. Between these extremes there are degrees of difficulty and of danger which must modify our treatment. Let us, therefore, consider the most favourable of these examples first, viz.:—

Cases where hæmorrhage is only commencing, and where you are in sufficient time to put any treatment into effect you think proper: what is your chief object? If possible, to save both the mother and child. You know, when the deluge comes, that the child is lost, and it is very doubtful whether the mother may be saved. To preserve the child, it is necessary to remove it from the uterus. To save the mother, the connection between the placenta and uterus must be broken off. If the former were done incautiously, the mother might be sacrificed. If the latter were hastily carried into effect, the child would be destroyed. We must avoid falling into either of these errors, and act upon correct principles in our treatment. To accomplish the objects we have in view, it is necessary to turn and deliver the child; but this cannot be done until the dilatation of the uterus is in some degree advanced, or at least until the os uteri is quite dilatable. *Never attempt to force open the mouth of the womb* for this purpose. Our first step is therefore to use the most efficient means to arrest the discharge while the uterus is dilating. This may be effected, 1st, by directly compressing the placenta; 2d, by maintaining and increasing, if necessary, the action of the uterus.

Compression of the placenta is usually accomplished by plugging the vagina. The tampon (as it is called) is directly applied to the source of the hæmorrhage: the exposed portion of the placenta is compressed, and a coagulum is formed within the os uteri, which must close its openings, and also the venous orifices on the surface of the uterus. The irritation also of a plug so applied, by distending the vagina, causes a more rapid dilatation than might otherwise take place.

The *mode of plugging the vagina* is very much governed by fancy: some use a single plug; others several separately introduced; some will employ silk handkerchiefs or sponges for the purpose; others are satisfied with common hemp. I have been in the habit of using two or three small plugs in preference to one large one, because it is necessary to remove the plug from time to time, in order to judge of the extent of the hæmorrhage, and sometimes also to relieve the urethra from pressure. If, therefore, a single plug be withdrawn, the coagula will be disturbed, and the hæmorrhage renewed; but if the outer pieces only are taken away, this will not be the case, and the extent of hæmorrhage may be judged by the degree to which these plugs are saturated; they can be replaced by others, so as more efficiently to favour coagulation. The material that I generally employ is hemp or tow: it is always easily obtained, and I think entangles the current of blood better than sponge. I have found sponges very soon become coated with a thin layer of coagulated blood, and scarcely arrest the discharge. This, however, is a mere question of personal experience: every practitioner has his favourite, and I may be allowed to indulge in this preference. When you have made the necessary vaginal examination, introduce a ball of tow loosely rolled up, and let it be applied directly to the os uteri. Let this be followed by two or three others until the vagina is filled, and support the whole of them by a napkin soaked in ice-water, and applied to the vulva. Another means of compression is to puncture the membranes, and allow the liquor amnii to escape. This practice has been suggested by Dr. Radford, but for a different purpose. In order to avoid the sudden discharge of the liquor amnii in cases of exhaustion, and thus adding to this danger, he proposes to puncture the membranes through the placenta with a trocar made for the purpose, and to allow the liquor amnii to flow away *gradually*. It appears to me that this practice would be equally serviceable in the case we are supposing; because, by allowing the head or presenting part to descend on the placenta, the compressing force would be greatly increased, and the dilatation of the uterus more rapid. The objection to it is, that turning might be much more difficult; but, knowing the effect of hæmorrhage in rendering the os uteri dilatable, I do not apprehend much difficulty in such a case as this. I should not, however, advise you to pass a trocar *through* the placenta: large trunks of vessels ramify from the funis over its fœtal surface: the instrument may be forced through one of these, and cause hæmorrhage from the fœtal vessels. For the sake of the child, therefore, I should not do so; there might be some risk also of renewed hæmorrhage from the placenta, if the coagula in the spongy structure were disturbed; but this would not be of so much consequence, as the plug could easily arrest it. For this purpose, a long gum elastic catheter of the largest size may be made, so as to have a pointed stilette to pass quite through it; this can easily be prevented passing beyond a certain distance, by a button or screw at the end opposite the point.

FIG. 15.



Gum elastic catheter, with spear-pointed stilette passing through it.
a, Screw-nut to sheath the point.

This instrument, having the point sheathed, may be passed within the os uteri, between the placenta and the cervix; and when it is quite above the placenta, the point can be pushed forward through the membranes; the stilette being then withdrawn, the liquor amnii will flow away chiefly through the catheter. This operation should, of course, precede the use of the plug. The source of hæmorrhage being thus secured, we must direct our attention

2nd. *To maintain, and to increase, if necessary, the action of the uterus.*—It is our duty, therefore, to watch closely the effect of the hæmorrhage on the constitution: if you have succeeded in arresting the discharge completely, so that the general circulation is not excited, and there is no nervous irritation, a moderate dose of ergot of rye will be sufficient to insure an efficient action of the uterus; but if you wish to save the child, I should recommend you to avoid giving large doses of this medicine, because of its known sedative influence on the action of the heart; besides that it may render turning a more difficult operation than it otherwise would be. You can seldom, however, succeed so perfectly as this; on the contrary, the hæmorrhage will continue, sometimes even profusely, and syncope, or exhaustion, with feeble action of the uterus, will soon present themselves. All the aids, therefore, to support the general circulation, and to remove nervous depression, must be called into requisition, in order that the action of the uterus may continue: stimulants, with opium, may be given internally, the temperature of the extremities maintained by wrapping them in warm blankets, and applying hot jars to the feet. A free circulation of pure air in the apartment should be secured, and the patient kept completely in the recumbent position. While these steps are being taken to arrest the consequences that you know will follow such symptoms, the delivery of the child, the most important one, will, of course, occur to you: the only question is, when should it be done. I would say, the moment symptoms of exhaustion begin to appear: if you wait for their full development, it would be better not to venture upon such an operation; and if such symptoms are not present, it would be desirable to delay a little, in order to give the uterus time to dilate sufficiently to pass the hand easily within it. If, however, the patient shows evidences of commencing exhaustion, you must deliver at once.

Turning the child is at any time a serious operation, and in no case more so than under the circumstances we are at present considering: not because the operation is then peculiarly difficult; on the contrary, in consequence of hæmorrhage, the uterine fibres offer less resistance than usual to the introduction of the hand, and the accoucheur has consequently much less difficulty than when the uterus is strongly contracted on the child, but it is an operation attended with considerable danger, from the shock the patient receives. The records of midwifery afford ample testimony of the fatality of turning in unavoidable hæmorrhage, chiefly because the patient was too much exhausted to support the shock of the operation. She either died immediately, or in a few hours afterwards. In the case supposed, however, no such objection exists. You proceed to deliver the moment exhaustion shows itself, or before that, if the os uteri is sufficiently open for the purpose. If the labour has continued for some time without exhaustion in the patient, the outer plugs may be removed, and a vaginal examination cautiously made: you will generally be able to ascertain the degree of dilatation without disturbing much the plug in contact with the placenta: if the os uteri is one half dilated, you may deliver. In either case, when about to operate, the external plugs being removed, I think it is better to leave the remaining one in its position, consider it as part of the placenta, and pass the fingers on to the edge of the os uteri; press them forwards in a conical form between the placenta and cervix, detaching the former from its surface: the more quickly this can be done the better, so as to admit the hand and arm into the uterus; because, when a portion of the placenta is thus detached, the introduced arm acts as a kind of temporary plug, and hæmorrhage is more efficiently restrained. The membranes, if entire, may then be broken through with the fingers, but, if they resist, the catheter may be introduced, so as to puncture them without the necessity of using so much force in breaking them as would separate more of the placenta than would be desirable. The hand and arm then pass along the head and body of the child to the limbs, which in nine cases out of ten lie posteriorly to the right side of the uterus. As you always meet the shoulder and arm first, you can have no difficulty in recognizing the leg; do not therefore lose time looking for the foot: if the knee first meets you, seize it, and bring it down quickly into the vagina. The limb of the child then becomes a plug in the place of the arm of the accoucheur; the remainder of the delivery should be as rapidly completed as is consistent with safety to the cervix uteri. In such a case as we are now speaking of, it will almost always yield very readily, and therefore there is a reasonable chance that the child may be saved, but every thing depends upon promptitude. In such an operation you will find it more convenient to use the left hand than the right. It generally happens, when the child is removed, that the placenta follows immediately: be prepared therefore for this, and, if necessary, use artificial respiration if the child is slow in taking its first inspiration. When the child and placenta are removed, hæmorrhage generally ceases, the patient may be given a full opiate, ice-cold cloths applied to the vulva, and the whole secured by the abdominal bandage carefully applied. If, however, it should still continue, the single plug wrung out of ice-water may be introduced into the vagina, and a full dose of ergot of rye given, which will arrest it.

We have dwelt at some length on the treatment of a case where flooding has just commenced, and where the whole management of it is in your own hands: let me now direct your attention to the second condition to which we have alluded—a case in which, without any previous notice of danger, you find a patient suffering all the worst consequences of flooding, and you are called upon to interfere.

When the patient is in extreme exhaustion.—If you were to adopt the same practice as that we have just described, in such a case as this—if you were at once to turn the child and deliver—the fate of the patient would be sealed. The late Dr. Rigby justly observed, that "the success of turning depends upon its being done before the patient has lost too much blood,"* and the fatal effects of performing it too late, when the patient is extremely exhausted, will be best understood from a few examples.

Giffard relates a case of this kind, on which he remarks, "although I dispatched this delivery in a few minutes, and without the loss of any quantity at that instant, yet the poor woman, from the preceding excessive evacuations of blood, which had occasioned convulsions, and great loss of strength and spirit, died in about half an hour after she was delivered."†

Smellie mentions a case in which he was persuaded to deliver his patient by her sister, who argued that "it was the only chance to save her life, and if she should die no one could be blamed." Smellie yielded to this very popular and cogent argument, and after some little difficulty, "he delivered the child in the preternatural way, on which the flooding stopped, but she was so weak that she expired in a few minutes."‡

The late Dr. Rigby relates two cases in which there was extreme exhaustion: both were delivered by turning: one died in six hours, the other in half an hour after the operation. And on these cases Dr. Rigby justly remarks—"so far from turning having been prematurely done, I am convinced its want of success was owing solely to its being performed too late."[*]

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* Rigby on Uterine Hæmorrhage, p. 33.
† Giffard's Cases in Midwifery, p. 89.
‡ Smellie's Midwifery, vol. iii. p. 162.

Dr. R. Lee mentions a case, (277) which occurred in Lower Eaton Street. "The patient had been attacked with repeated discharges of blood from the uterus, in the eighth month of pregnancy. . . . The bleeding had produced *great exhaustion*, but the orifice of the uterus was not in a condition to admit of artificial delivery. In some days the hæmorrhage was controlled, but it returned with great violence, and Mr. ——, (the gentleman in attendance) passed up the hand into the uterus, and delivered the child alive. The placenta soon came away, and she appeared for two hours to recover, and then suddenly expired, without any further loss of blood."[†]

Dr. Lee relates another instance, which occurred in the practice of Mr. Harvey (case 295). Mr. H.'s patient had a discharge of blood about the middle of July, 1842. It returned on the 4th of August, and "Mr. Harvey found her literally deluged with blood, and the placenta adhering all round to the cervix uteri. The orifice was open to the size of half a crown, and its edge thin and dilatable. He proceeded at once to deliver by turning, which he accomplished with great ease, and in a short time, and the child was born alive. The delivery was soon followed by faintness, and the usual consequences of great loss of blood, and she was dead before I (Dr. Lee, who was sent for) saw her."[‡]

This list might very easily be lengthened considerably: the records of practice afford numerous examples of the fatal effect of turning in extreme exhaustion. The question, therefore, proposes itself.—What are we to do in such cases? And it is very difficult to answer it without venturing a little on the troubled sea of controversy. The general reply is, that which so much influenced Smellie. We should not let the woman die undelivered. We assume that she must die, and, therefore, prefer that she should do so "*secundum artem*," rather than expire with the child in her womb. We shall presently see whether this manner of reasoning is valid. Let us examine the opposite side of the question, and reflect on those cases where turning was not attempted. I may again refer to Dr. R. Lee's valuable collection of cases, for one which is very instructive.

"(Case 262), a woman in the 7½ month of pregnancy, had a great discharge of blood from the uterus for 36 hours before I (Dr. Lee) saw her. A large portion of the placenta was hanging through the os uteri into the upper part of the vagina. I proposed immediately to deliver by turning the child, but she obstinately refused to submit to the operation, and I was apprehensive she would die undelivered. The hæmorrhage continued with great violence for several hours, when the placenta and a dead fœtus were expelled without assistance. She remained long in a state of great exhaustion, but ultimately recovered." Nature accomplished her work here, and the woman did not die undelivered.

Numerous instances are recorded in which the delivery was accomplished by the natural efforts alone: the placenta was detached, the hæmorrhage ceased, the mother recovered, and sometimes even the child was saved. I shall quote one such case from Professor Simpson's valuable paper on this subject. Dr. Dewar, of Dumferline, relates a case in which, in spite of every precaution, frequent hæmorrhages occurred before labour. "Labour took place at the full time, and, as was dreaded, was accompanied with severe hæmorrhage from the beginning. When I saw her about an hour after pain had begun, the orifice of the uterus was pretty well dilated, and a soft spongy mass, apparently the centre of the placenta, protruded from it. There was no time for interference, for almost instantly a strong pain forcibly expelled the whole of the placenta from the vaginam. To my surprise, the flooding ceased. Pains continued active, and the child was born in less than ten minutes. After a little time, the infant revived, and the mother recovered well, though considerably exhausted."[*] A case came under my own notice in which the natural process of delivery was clearly shown. I was summoned by my friend and former pupil, Mr. Tweed, of Brook Street, to see a patient of his, who had flooded very much. He had plugged the vagina, by which the discharge was controled: the os uteri had dilated to the size of a crown piece, and the placenta was found to present. As there was no hæmorrhage to signify, and the os uteri was rather rigid, I was reluctant then to interfere, but recommended that the vagina should be again plugged, and if hæmorrhage returned in the least degree, to turn the child. In two hours, the plug and placenta were both expelled together, all hæmorrhage ceased, and in a hour and a half afterwards the child was delivered, still-born. The woman rapidly recovered: when the placenta was examined, a large coagulum was found in the spongy structure beneath the membrane covering the uterine surface of the placenta. Some years ago, when residing in Dublin, I had been hastily sent for in consequence of violent flooding; I arrived about half an hour after the message was received, and in the interval the patient had expelled the placenta and child, by which the hæmorrhage was arrested. This patient also recovered without any drawback. These cases are only small additions to a large number already recorded by Professor Simpson, and several other practitioners, all proving that Nature, of her own accord, sometimes succeeds in separating the placenta from the cervix of the uterus, the effect of which is, the cessation of the hæmorrhage, and generally the recovery of the patient. We have seen also that even the child may escape such unfavourable circumstances. If, then, it be true that the natural separation of the placenta arrests hæmorrhage—if it be consistent with our knowledge of the structure of the placenta and the utero-placental circulation, that such should be the case—and if turning the child is proved to be a most dangerous operation in cases attended with extreme exhaustion, is it not reasonable to think that the *artificial separation* of the placenta in these cases—a much less serious operation, a mere imitation of Nature—would be a justifiable practice, and one that hardly merits the very severe castigations it has received? The objection may, perhaps, occur to you, if separation of the placenta be safer than turning, why not always do so? We would reply, that although safer for the mother, it is destructive to the child; and our practice must be guided by the same principles in this as in other obstetric operations: if it be possible to save both mother and child by turning, to do so; but if we have any doubt about the mother's safety, not to hesitate one moment because of the child. Some practitioners will not scruple to destroy the child with the perforator, when there is a doubt about the mother's safety. Why then should we hesitate, in the present instance, to sacrifice the child, if we are satisfied that the separation of the placenta will arrest the hæmorrhage and save the mother, especially if by doing so we avoid exposing her to the shock of so dangerous an operation as turning in extreme exhaustion. It is no reply to this argument to say that some women have been thus delivered in the last stage of exhaustion, and have escaped; I only ask you to examine, as I have done, the records of midwifery practice, to find the number who have not escaped, but who have lost their lives through this operation.

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[*] Rigby on Hæmorrhage, p. 121.

[†] Lee's Clinical Midwifery, 1st edit., p. 152.

[‡] Clin. Midwifery, p. 163.

[*] Monthly Journal of Med. Science, p. 176.

Again, it may be said, that in those cases where Nature succeeds, the action of the uterus is strong, that the contractions of the uterine fibres arrest hæmorrhage, not the separation of the placenta, and therefore the practice would not be applicable in cases of exhaustion. It is quite true that contraction of the uterine tissue takes place in the natural effort to separate the placenta, and equally so that the venous openings are in a great degree closed by the head descending on the cervix, but we have also perfectly clear evidence that coagula form in the spongy structure of the placenta to arrest the current of arterial blood, until this source of hæmorrhage is cut off by the separation of the placenta; we may, therefore, infer that if this did not happen, if the current from the arterial side were too impetuous to admit of coagulation, the placenta would still be a fatal source of flooding, although all the exposed uterine openings were closed. Exhaustion implies a want of tone in the uterus, which has an equal influence on the arterial as on the venous source of hæmorrhage. If, therefore, the placenta were suffered to remain attached, you not only run the risk of continued flooding from this source, but you are prevented from using the most efficient means to close all the uterine sinuses, because some of them at least are in connection with the placenta, and the regurgitant current from the uterus may as readily escape through the attached portion of the placenta as from the sinuses which are exposed. I have already mentioned to you a case of fatal hæmorrhage, where a small portion of the placenta was left behind in the uterus, the remainder being expelled. Was flooding here from the placenta or the uterus? I am *perfectly* convinced, if the placenta were completely removed, flooding would have been as much in our power to control as in many similar cases. But it is more conclusive to appeal to facts. The brief history of a few cases will give more instruction on such a point than a thousand arguments. Mr. Stickings, of Lenham, Kent, relates a case of placenta prævia. "The state of the patient on his arrival was as follows:—she was insensible, and completely blanched; the pulse scarcely perceptible; extremities cold; the loss of blood from the uterus had been excessive, but the hæmorrhage at this time had ceased. The state of the poor woman at this juncture was most alarming, and my impression was that she would rapidly sink. With much difficulty I (Mr. Stickings) administered some brandy; soon after this, finding some slight symptoms of returning animation, I made an examination per vaginam, and discovered part of the placenta detached, and external to the os uteri, the remaining portion adhering to its neck. . . . . I, without hesitation, removed the remaining portion of the placenta (about a third): it was detached without difficulty; more brandy was given with much benefit. On the return of the pains I ruptured the membranes, and in about twenty minutes after the discharge of the liquor amnii a dead child was expelled. . . . . With the exception of extreme debility, she completely recovered without one bad symptom following."[*] Could there have been stronger proofs of extreme exhaustion, by which the pains (the contractions of the uterus) were suspended? and yet, although the placenta was not completely separated, hæmorrhage had ceased: we cannot attribute this cessation to active uterine contractions.

Dr. James Reid, in his "obstetric report of cases," mentions one of "expulsion of the placenta occurring an hour before the child." He observes, "still more severe flooding now took place, and continued for about an hour; when the placenta was expelled, the *hæmorrhage immediately ceased*, and there was no recurrence of it at any time after this. The midwife was sent for, but did not arrive until more than an hour had elapsed, when she found the infant presenting with the feet; and in a short time it was, with manual assistance, removed. . . . . The patient who, as I have already stated, was at all times weak and delicate, was now quite prostrate by the great loss of blood she had sustained, and was ordered by Dr. Bennet, who afterwards visited her, to take strong nourishment frequently—opium and tonics. Her system, however, was unable to rally, diarrhœa supervened, and she sunk under its effects on the 20th instant, eight days after labour."[†] The woman was flooding for an hour, was reduced to such a state of prostration that she did not recover from it, and yet, on the separation of the placenta, hæmorrhage ceased, and did not again return.

Dr. Waller, in his Clinical Remarks, mentions a case (8) of partial placental presentation. "The patient had been under the care of a midwife, who had ruptured the membranes on the preceding day, and then left her. Another woman was sent for in the evening, who also got alarmed at the bleeding, and, like her predecessor, decamped, leaving the sufferer to her fate. A medical man saw her on the following morning, who immediately requested my (Dr. W.'s) attendance. At that time *the hæmorrhage had abated;* the pulse, though rapid and soft, was not so feeble and faltering as I have frequently witnessed in similar cases"—the delusive reaction that I have often seen—"there was a general warmth of the surface, but the countenance was deathly and corpse-like . . . . On introducing the hand for the purpose of examination, the placenta was easily felt *lying in the vagina*, but no portion of the child: the knees presented. The child was readily drawn down: some difficulty was experienced in bringing the head through the pelvis. Notwithstanding the discharge was trifling, the signs of sinking increased. . . . . After an interval of about fifteen minutes, the pulse fell, the patient threw her head back on the pillow, and instantly expired."[*]

Here, then, is an instance of extreme, of fatal exhaustion. The unfortunate patient was left to her fate until the arrival of the medical gentleman, who immediately sent for Dr. Waller. But it was too late. Although the placenta was naturally separated, and found lying in the vagina,—the hæmorrhage had abated, and the discharge was trifling,—nevertheless, the patient was too much exhausted: she died in a quarter of an hour.

These instances I have selected from several, because they were reported by gentlemen who (like myself) have been perfectly impartial observers of the controversy carried on respecting the proposed practice to separate the placenta artificially; who were neither advocates nor opponents of the practice, and on whose testimony, consequently, the strictest confidence may be placed.

I trust we have succeeded in pointing out to you the danger of turning the child when your patient is extremely exhausted—in proving to you that, even in these cases, Nature sometimes succeeds in arresting the flooding by the separation of the placenta—that when this happens hæmorrhage ceases, even where the action of the uterus is suspended. It remains for us to consider whether, in these cases, artificial separation of the placenta may be put in practice. A question springs naturally from this discussion, which I shall not now enter upon—How can hæmorrhage be arrested by the separation of the placenta when the uterus does not contract, or at least when we have no evidence of its contractions by the presence of pains? I must leave this, with other problems connected with the circulation, for some future inquirer to resolve. For the present I shall let it remain with that which some time since puzzled the surgeon so much, viz.—When an aneurismal artery (the carotid for instance) is tied on the side of aneurism distant from the heart, why should the aneurismal sac diminish rather than increase? Perhaps the same principle may explain both phenomena.

OBITUARY.

On the 26th ult., in his 19th year, Samuel Miller, student in medicine at the Newcastle-on-Tyne Infirmary, and second son of the late Luke Miller, of Little Ilford, Essex.

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[*] Med. Gaz. Sept. 26, 1845, p. 948.

[†] Med. Gaz. Nov. 28, 1845.

[*] Medical Times, Jan. 15, 1848.

CLINICAL LECTURE
ON A
CASE OF MALIGNANT CHOLERA.

By Dr. Little,
Physician to the London Hospital.

[Reported by Dr. Satro and C. Harper, Esq.]

Asiatic Cholera—Urgent Diarrhœa and vomiting 10 *hours—Complete collapse about* 24 *hours—Partial collapse*, 48 *hours—Stage of reaction*, 6 *days—Recovery.*

Tuesday, Nov. 7th, 1848.—At half-past 8 A.M. I was called to the ship *Active*, in the St. Katherine Docks, to see first mate, a native of Denmark,* aged 25, single. I found him sitting on a chair, the head drooping, the eyes half closed, the hands and feet cold as ice, and of a bluish colour; pulse not to be felt at either wrist; pulsation of the heart likewise imperceptible; the only signs of life, respiration, 16 in a minute; vomiting every few minutes, and purging; extreme thirst, and cramps in the legs. I ascertained the following antecedents:—About four days ago, he had complained of pressure in the pit of the stomach, of which he was relieved by the captain giving him a teaspoonful of powdered magnesia in some water. On Sunday evening last he complained again of the pressure, when the captain gave him fifty drops of Tinct. Asafœt. in some camomile tea, with two drops of peppermint essence, after which he felt himself much better, and appeared yesterday as well as usual, performing during the day all his ordinary duties, and going to bed at the usual time, without any apparent change or complaint.

At 11 o'clock P.M., last night (Nov. 6th), he was suddenly seized with diarrhœa, and early in the morning vomiting supervened, but as his comrades observed, without appearance of dangerous illness. The change of features and sudden collapse had only taken place, according to their report, a few minutes before I was summoned.

The stools were *perfectly white*, like a pap of rice, and no urine was passed during the time of my attendance, nor was any desire of voiding urine manifested. The vomited liquids were equally whitish and colourless, of course with those exceptions in which he vomited up substances of colour, taken some instants before. Nose and also tongue quite cold. I stopped with him during the whole day and night, till Wednesday morning half-past eleven, with the exception of about two hours and a half, which I was unavoidably compelled to devote to other duties, and adopted the following treatment:—

I had him brought to bed, and rubbed his abdominal and lumbar regions with *oil of turpentine* and *spir. of camphor*, and ordered a sailor to rub his legs till the spasms ceased. At the same time I requested the captain to mix the following—℞ Spir. Camphor. gutt. iij.; Laudan. gutt. vj.; Tinct. Asafœt. gutt. x.; M.; and to give it him with some cold water. Every now and then the patient's eyes turned like those of a dying person, and the features seemed to become decomposed. Though never losing his consciousness, *his indifference* to everything around him or about himself *was extreme*, to the extent that, when I asked him whether he had any more wish in this life, which I should take care to see fulfilled, he always shook his head in the negative.* At such periods, when animation seemed about to leave him, I rubbed again with fresh energy, and repeated the drops, which always caused the fit to pass off, and gave him ease. I think I rubbed him continually for about seven hours, till he complained of external pain at the rubbed surfaces. When he turned on his side, I rubbed him on the lumbar region, which seemed to relieve him. Subsequently I had mustard poultices applied to the region of the stomach.

At a quarter to 2 P.M. he asked for some gruel, to which I ordered some brandy to be put. When the apparent death struggles became less and less frequent, and when also the above drops seemed to make no more impression on the disease, I prescribed the following powders—℞ Hydrarg. Submur. gr. β.; Pulv. Opii, gr. ¼; Elaeosacchar. Menth. piper. gr. vj. M. f. pulv. omn. hor. dimid. sum. Mitte tal. 12; which he continued taking for some hours.

From a quarter to 5 to 8 P.M., the above powders were again regularly given every half hour. I had been absent from about half-past 5 to 8, and when I returned, the patient told me from his own accord, before I asked him, that he felt much easier. I then gave him a scruple of calomel with sugar, which, however, was vomited immediately.

At 9 P.M. I gave him about two drachms and a half of *Warburg's fever drops*; he vomited three or four minutes afterwards, and then seemed to fall into sleep, lasting about half an hour. Up to twelve o'clock he vomited much less than at any previous period.

At a quarter past midnight (Wednesday morning, Nov. 8th), I gave him the second dose of the above fever drops, after which he vehemently drank cold water. He vomited sooner after this dose, and then only once till now.

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* The patient had been, on former occasions, when he "lay in the Thames," affected with looseness, not requiring medical aid. On the present occasion the ship entered the docks immediately after her arrival, three weeks since, the patient having slept on board every night.

* Dr. Satro's Anglo-German graphic description of the state of the patient prior to admission into the hospital has been purposely left unaltered.

Half-past 1 A.M.—He appears to breathe a little more easily; he also asks less frequently for drink. I recommended rubbing him at intervals on the epigastric and pectoral regions, and had hot flannels applied to his legs and feet.

Since half an hour (viz., since 1 A.M.) I can perceive his pulse, and can count it, with great difficulty, 102, irregular, threadlike, and extremely small; more distinctly on the left hand than on the right.

At a quarter past 2 A.M., twenty drops of Spir. Ammon. Arom. were given; he vomited about five minutes afterwards.

At half-past 2 A.M. I had some hot water brought with salt, and ordered his hands to be kept over the pails, which seemed to afford him great ease, and more than I could expect; bottles filled with hot water were at the same time applied to his feet. I also gave him twenty-five drops of the following mixture—℞ Extr. Nux. Vomic. gr. iv.; Liq. Opii Sedat. ʒj.; Essent. Menth. piper. ʒiii.; Tinct. Kino ℥ß.; Spir. Ammon. Arom. ʒii. He vomited a few minutes afterwards, but then fell into an apparently quiet sleep, lasting for three quarters of an hour; then again one vomiting and purging; pulse a little more distinct, 102.

At a quarter past 3 A.M. I gave him 30 of the last drops; he vomits again after a few minutes.

The vomiting appearing again to become violent after some time, I sent for some chloroform, and applied it with a sponge to the mouth and nostrils, which seemed immediately to cause a more easy and lively respiration, and to produce a relaxation and unbending of the contracted muscles of the chest and trunk, inducing the head to fall back with ease on the pillow, and thereby preventing the act of vomiting.

At a quarter to 5 I gave him again one of the above calom. and op. powders; again at a quarter past 5, also at a quarter to 7; pulse 117, more distinct.

Pieces of ice were continually swallowed during the night, apparently without relief; but he subsequently stated that they gave him much comfort. With the exception of the periods above mentioned, he was vomiting during the whole time every two or three minutes; purging latterly less frequent.

7 A.M.—He seems to be a little more at ease. The ship being obliged to leave the dock, he was removed at about half-past eleven to the London Hospital.

Admitted into the London Hospital, under care of Dr. Little, Wednesday, Nov 8, at noon. He then complained of pain in the epigastrium, nausea, cramps in the palms of the hands and fingers. Eyes were slightly sunken; hands, legs, and feet, cold and cyanosed; skin void of elasticity. Pulse very weak, 112 to 120; respiration labouring, 18; thermometer under tongue, the lips being closed around stem of instrument, 87° F. Immediately after admission, called for water, of which he partook; he was instantly sick, rejecting clear fluid, apparently the water mixed with some gastric secretion, the reaction of which was *acid*. This was promptly followed by a dejection, consisting of about a handful of viscid matter, similar to tapioca boiled in water, having a peculiar animal or fishy odour and *alkaline* reaction. Ordered to take—Hydr. Chlor. gr. ij. every half hour; an Enema, consisting of Sodæ Muriatis, ʒij.; Aquæ, temp. 100° F. lb. iij. Anus to be firmly plugged to prevent escape of fluid injected. Hot air bath. To drink as freely as he pleases of a mixture of half a pint of sherry and four and a half pints of cold water, which he asked for in preference to pure water, or weak brandy and water. Patient expressed himself more comfortable from the action of warm air bath and the enema; but at

5 P.M. complained of nausea and vomiting; was very restless; lividity of hands greater; tongue 90, F.; eyes appear more sunken; pulse less distinct; vomited matters copious; chloroform applied on sponge beneath the nostrils, but as he unwillingly inhaled the vapour, he was ordered—Chloroform ♏xv.; Aquæ destill. ℥j. M. ft. haustus. Vomiting occurred once within a few minutes after taking the draught; but at

8 P.M—The report was that he had vomited once only since taking the chloroform: although more quiet than at last visit, still restless, pushing aside the bed-clothes. Duskiness of face and hands the same; right pulse more perceptible, from 120 to 130; voice still husky; feet warm; tongue 94 F.*

11 P.M.—Appeared to have slept; less restless; pulse stronger; irregular. Respiration less heaving, 18; vomited once only; no motion since the morning; drinks much wine and water, of which nearly the whole has been retained. Hot air bath to be repeated occasionally.

9th, 10 A.M. — Reports entered at half-past two, four, and half-past seven A.M. to the effect that he had been more comfortable; occasional sleep; still restless; sickness slight. Pulse gradually improving. Occasionally troubled with hiccup, which had been relieved by vapour of chloroform. No urine. Has drunk large quantity of milk, the larger part being rejected—curdled. Pulse 92, stronger, more regular. Feet and hands cold, but less dusky. Restlessness diminished.

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* A portion of the injected fluid had escaped.

Noon.—Vomited matters tinged with green; extremities very warm. At half-past 1 P.M. vomited matters gamboge colour; acid reaction; the unusually distressing nausea and vomiting relieved by chloroform inhalation. Rep. Enema. Take calomel every hour only.

5 P.M.—Feels better; has dozed during the intervals of repose from vomiting; has drunk largely of water; vomited matters dark green and viscid; voided, for the first time, a quarter of a pint of dark-looking urine (acid); at the same moment passed a motion, of the consistence and colour of treacle, and feculent odour. Pulse 92, regular; temperature under tongue, 95 F.; extremities warm.

10 P.M.—Slept; still nausea and retching; eyes less sunken; pulse fuller and stronger, somewhat jerking; gums tumid and red, from calomel; thirst diminished; tongue has been clean and moist throughout; abdomen remarkably sunken.—Omit. Hyd. Chlor.

10th, 8 A.M.—Aspect of distress; eyes recovered, as regards fulness; less indifference to surrounding objects; and has, for the first time, inquired concerning his ship. Expressed himself still very ill; points to epigastrium as the seat of suffering; face still dusky, suffused, redder at cheek-bones than elsewhere; hands still purple; skin presents more tone; no moisture, but temperature moderate; feet warm, less dark than the hands. Pulse weaker, 72, regular; tongue slightly furred in the centre. Two motions during the night; the first of these thick, dark, and offensive, though less dark than the first bile-containing motion. The second of these still lighter, yet dark ochry, suggesting the probability that natural bilious stools will soon appear. Has voided about three ounces of urine lighter than the last; has taken three-quarters of a pint of beef-tea, gruel, and tea without milk. Desiderates weak brandy and water.

3 P.M.—Complains of pain in the abdomen; sick and restless; pulse strong and full; temperature 92 F.; motions more copious; urine more abundant and limpid. —Catapl. Sinapis. Abdom.

11th, 8 A.M.—Shakes the head doubtingly when asked if he feels better. Face improved; pulse 72, weak; tongue still slightly brown in the centre; two or three motions since last report, watery, dark brown, containing flocculi.

6 P.M.—Still complains of pain in the abdomen; several motions, probably attributable to the calomel formerly taken; vomited once; urine voided once; duskiness continues in parts.—Dry cupping to abdomen; Rep. Enema; Mist. Effervesc. c. Potassæ Citrat. et Ammon. Sesquic. gr. v. Take chicken broth, arrow-root, tea, and cold water, with brandy, two ounces in 24 hours.

12th, 11 A.M.—Cheeks much flushed, red; colour of hands natural; deep hue still perceptible about the head and parts of the face. During the night has had flushes, alternating with sensations of chilliness; skin very hot; pulse 84, full; thirst; desires lemonade; has eaten small portions of bread; passed several motions, and urine twice.—Decoctum Cinch. ter die.

From this period, amendment was daily perceptible: the alternating chills and flushes subsided on the 14th; the surface of the body then acquired its natural temperature, although as late as Nov. 15th evident dinginess of the upper part of the body remained. Pulse sank to 72, full and soft; alvine evacuations obtained, natural colour and moderate consistency.

On the 18th November, patient was declared entirely convalescent; had sat up since the 15th. The face and general surface had acquired a natural colour,—his light, fair, Scandinavian complexion and hue strongly contrasting with the discolouration that had so long indicated the existence of blue or Asiatic cholera.

21st.—Feelings of health and appetite quite restored. Temperature 98 F. Salivary fluid and fæces figured, acid. Urine 1018, natural.

Considering that much interest would attach to an analysis of the first portions of urine voided after protracted cessation of excretion, I requested Dr. Letheby to analyse the specimens of this fluid passed on Nov. 9th and 10th. He has kindly furnished me with the following communication:—

Preliminary Observations made with the view of furnishing data for a comparison of the urine of a cholera patient with that of a healthy individual.

1. The specific gravity of healthy urine ranges between 1005 and 1030; the average being, according to Simon, 1012·5; but, from a general examination of the results of other experimenters, I am inclined to think that 1015 would be nearer to the mean.

2. The amount of the solid constituents of the urine varies in a like ratio with that of the specific gravity; and, therefore, it would range from about 12 parts in the 1000 to 70. The average, however, would, according to Simon, be 30; and according to my observations, 35.

3. Upon taking the mean of 12 analyses which have been made by Berzelius (1), Lehmann (3), Simon (5), Marchand (2), and Day (1), upon 100 parts of the solid residue of healthy urine, it may be represented thus:—

chloride of sodium	38·15
Alkaline sulphates	10·35
Alkaline phosphates	5·94
Phosphate of lime and magnesia	1·66
	99·70

which has taken place in the composition, &c. of the diseased urine in question; and, first, with reference to the general characters of the two specimens which were furnished to me:—

	No. 1—first voided.	No. 2—voided last.
Quantity	5 ounces, 6 drachms	2 ounces, and 5 drachms.
Colour	Deep red	Almost colourless.
Deposit	None	Of epithelium and bibasic phosphate, both in great abundance.
Specific gravity	1018·2	1017.
Reaction to test paper	Very acid	Very alkaline.
Albumen	Not present	Not present.
Sugar	Not present	Not present.
Solid matter in a fluid oz.	18·2 grs.	12·53 grs.
Of which there were—		
Soluble in alcohol	7·	4·5.
Insoluble in do.	11·2	8·03.

On making an analysis of the solid residue, and arranging it so as to present comparison with that of the healthy urine, it would stand thus:—

	Health.	Cholera.	
		No. 1.	No. 2.
Specific gravity	1015	1018·2	1017
Solid matter in 1000 grs.	35	38	26·2
100 grs. of solid matter would yield—			
Urea	42·03	12·35	8·41
Uric acid	1·57	·62	1·85
Extractive, &c.	38·15	82·59	76·80
Alkaline sulphates	10·35	1·70	6·84
Alkaline phosphates	5·94	1·90	3·93
Phosphate of lime and magnesia	1·66	0·80	2·17
	99·70	99·96	100·00

Now a comparison of these results indicates that there was a very large amount of animal extractive matter present in the urine of the cholera patient; but I am not prepared to say in what proportion kreatine and kreatinine existed in it, for I had not time to make the necessary inquiry: it is, however, highly probable that they were present in it to a large extent. Taking the facts as they present themselves to us, and viewing them in accordance with the Liebigian rules, it might be said that the existence of so large a proportion of animal extractive, together with the diminution in the amounts of urea and uric acid, indicate a great deficiency of oxygen in the system, and that the debris of the tissues was passing off without suffering a complete oxidation, and that they were in all probability in a state of molecular, perhaps putrefactive, change, and that they might in this way have set up—or, at any rate, might have had to do with—the morbid actions which were manifested in the system.

This condition of the urine is certainly very peculiar; for I do not think that it can be brought into any one of the divisions which Becquerel has made of morbid urine; and, on comparing it with the results which have been made out with reference to the composition of the urine in other diseases, it appears to me to come nearest to that which is secreted in pneumonia and in typhus.

Remarks.—The more important facts of this case are, the three weeks' residence on ship-board after arrival from Copenhagen—a place reputed to be not affected with malignant cholera; non-communication with any vessel in the Thames on board of which cholera actually prevailed; the sudden advent of profuse diarrhœa and vomiting, succeeded by intense collapse during one diurnal period, with diminished prostration during a greater length of time; a reactionary stage of several days, during a portion of which distinct alternations of flushes with chills were observed. To these facts may be added the cessation of *secretion* of urine during sixty-five hours, and of the *excretion* of bile during about sixty hours; and, lastly, the interesting fact, shewn by the analysis of Dr. Letheby, of the approximation of the constitution of the urine first voided after collapse, to that observed during typhus and pneumonia.

The short time at our disposal will not permit us to dwell upon the first of these facts, and the attempt at its explanation. It cannot be considered that the patient's residence on ship-board previously to his seizure with cholera will greatly assist the formation of an opinion respecting the mode of propagation of the disease. The history of the first cases of every epidemic becomes a more valuable contribution to the formation of an opinion respecting the mode of origin or propagation of the disease, than that of cases occurring after the disease has long existed in a locality. I cannot, therefore, altogether dismiss the subject. It is certain that every patient with cholera admitted into the London Hospital, during the present visitation of the disorder, has either resided on ship-board, or has been in communication with shipping in the docks or river. In the present case the ship had not come from an infected place, although, from the free admission of ships from notoriously infected parts, it may with certainty be assumed that the ship lay in the docks contiguous to vessels from infected places. It is, therefore, not improbable that this patient may have had communication with other foreigners from Hamburgh, Bremen, or Dutch ports. The patient's friend who accompanied him to the hospital, informed us that the crews of ships from Copenhagen, Hamburgh, and ports on the opposite coasts of the German Ocean, rendezvous at particular taverns and boarding houses during their stay in London.

This case exhibited no strictly premonitory diarrhœa, although the patient, on the occasion of former visits to London, had been subject to looseness, which may simply have resulted from the ordinary influence of change of air and diet, to which strangers are liable on their arrival, or it may have depended on some peculiar susceptibity of the individual to intestinal derangement. The purging was sudden, and, as in the majority of instances of cholera, the attack commenced nearer the hour of midnight than noon-time. I can offer you no better explanation of the reason of the majority of attacks of cholera taking place (according to my own experience in 1832, and that of other observers) towards or shortly after midnight, than that, as it is the custom of the majority of persons to ply their digestive organs with the largest share of labour towards the close of the social day, it is reasonable to suppose that when the poison of cholera, be it contagious or malarious, is latent in the economy, and *pointing* to the organs of the alimentary canal as the parts in which the storm is about to burst, the hours during which the organs of the abdomen are more severely tasked to perform their office of digestion and absorption of nutrient matters will be those during which the grave derangement of their functions, comprehended in the idea of cholera, will take place. Hence, in Asiatic cholera, as in English cholera, the symptoms often ensue upon a hearty meal, sometimes of indigestible nature: and, by the vulgar, or by those incorrectly versed in pathology, the meal, instead of being correctly regarded as the last link, if any, in the chain of morbid influences, is considered *as* the primum mobile of the seizure.

You learn from the history of this case, that the alarming collapse succeeded to about six hours active purging and vomiting; the serous portions, in particular, of the circulating fluid being, during this period, *actively* expelled downwards and upwards, in pint and quart measurefuls. I think it will be found that six hours incessant expulsion of the fluids of the body is usually adequate to produce the state of collapse. Indeed, the intensity and the danger of this stage depends, not simply upon either the dose or degree of cholera poisoning to which the individual has been exposed, or upon the quantity of fluid vomited and ejected, but upon other circumstances, amongst which we may justly consider the rapidity with which the mass of blood is deprived of certain of its component parts. Precisely as sudden hæmorrhage, to the extent of two or three pints, is followed by alarming syncope, whereas a much larger abstraction of the vital fluid, after accidental or other lesion of arteries, may occur without fainting, provided the escape of blood be gradual; so, in cholera, the profuse discharges of a few hours continuance bring the sufferer nearer to asphyxia than does a larger *drain* of several days duration.

The stage of collapse of cholera, with its pathognomonic physiognomy, absence of pulse, cold tongue and breath, sunken eyes, and inky surface, once set in, the event of the disease will be determined by the intensity of the poisonous influence to which the individual has been subjected, the suddenness of the occurrence of this stage, the coexistence or absence of any organic disease of the heart, lungs, or chylopoietic viscera, the natural strength of the person's constitution, and possibly by the agency of remedial agents. During the existence of collapse, we are unable to form any opinion respecting several of these influences, and therefore we cannot venture upon a prognosis in a given case of cholera in the stage of collapse with any degree of precision or satisfaction. We may judge of the intensity of the epidemic influence by the mortality in other instances that have fallen under our own observation. If we turn to the statistics from cholera afforded by Russia, Turkey, Egypt, Germany, and Holland, during the wave of the disease that is now passing over Europe, we find that more than half of those reported to have been attacked have succumbed. But we are in ignorance of the basis upon which the published calculations of mortality in different countries have been constructed. We know not whether, even in our own country, cases of cholera, in which rice-water purging and vomiting have occurred, have been reckoned as cholera, or whether the cases in which collapse has occurred have alone been considered as the genuine disease. In my opinion, cases which have not proceeded to the extent of complete collape have been enumerated as cases of cholera, otherwise the reported mortality would have greatly exceeded the half of the seizures. We cannot, during existence of collapse, in any given individual, ascertain the condition of the internal organs of the body as regards previous organic disease; nor can we judge of the general vigour of the individual, and his capability of struggling against an affection so formidable, since, during the cold stage of cholera, the physiognomy and general appearance are so much altered, that acquaintances would scarcely recognise the sufferer, whilst the convalescent is so unlike the person in collapse that the physician can scarcely believe in their identity.

After some hours of collapse, either death terminates the struggle, or symptoms of reaction present themselves: the vomiting has become rare, the urgent diarrhœa has degenerated into a constant drain from the bowels, which the patient, being unconscious, or owing to the indifference characteristic of the disease, permits to flow unnoticed from him. A return of the pulse, flickering and uncertain as this may be, and a ray of warmth apparent in the tongue or extremities, re-excite the hopes of the attendants; but this amendment is often transient, the worst apprehensions concerning the result being justified by renewed extinction of pulse and depression of temperature. In this patient, the partial collapse continued about forty-eight hours, the termination of the stage being anticipated by the appearance of urine and bile. At no period during the first three days could a safe prognosis be offered, since, as we have seen in the present and former epidemic, patients, after return of pulse, urine, and bile, have had a fatal relapse.

Much has been written on the subject of the secondary fever of malignant cholera. Experience at Newcastle and Newburn, in the latter of which places my friend and colleague, Dr. Cobb, and I watched the course of an epidemic visitation of the disease, by which upwards of a tenth of the population were destroyed, has convinced me that the so-called secondary fever of typhoid character was, in great measure, the result of the large quantities of opium and stimulants employed. In our patient, the reactionary stage was well marked, anorexia and thirst were present, the pulse was strong and bounding, the skin hot but not dry, a streak of fur appeared along the centre of the tongue. This reaction was evidently synochal rather than typhoid, and certainly not alarming. The danger was past—the risk had consisted in the tendency to relapse into collapse before reaction was accomplished; not during the reaction itself, as in ordinary fevers.

Those pathologists who regard Asiatic cholera as a peculiar fever, and the collapse as the analogue of the cold stage of an intermittent, regard the reactionary stage of cholera as the necessary sequence to the collapse, as the analogue of the hot stage of intermittent. But here the analogy must terminate, as nothing occurs in Asiatic cholera strictly comparable to the sweating stage of the ague. It is true, that in our patient alternate *chills* and *heats* were plainly perceptible during the reactionary stage of the disorder. These *chills*, which did not amount to rigor, but were sensations of cold with actual diminution of temperature of the surface, accompanied with solicitous demand for additional clothing, must not be confounded with the variations of temperature and tendencies to relapse which occurred during the collapse, and which, during that stage, were not the subject of complaint. On the contrary, during the coldest period of collapse, the patient was, owing to præcordial or epigastric uneasiness, restless and anxious to divest himself of bed clothes. I do not remember having witnessed anything approaching to periodical remissions of heat, after establishment of reaction, in the former visitation of cholera, or whether the circumstance has occurred in other instances during the existing epidemic.

It appears to me probable that the phenomena of reaction observed after severe collapse of cholera may simply be the result of the refilling of the vascular system after the draining it has undergone. As in the moral world, wealth succeeding to poverty often occasions, in the possessor, aberrations of destructive tendency, and as a hearty meal after long starvation has been known to kill him whom it was intended to revive, so, on cessation of the morbid actions upon which the evacuations of cholera depend, when, from the exceeding emptiness of the vascular system, absorption will be liable to take place with very uncommon rapidity, the renewed flow of fluids and nutritive matters from the alimentary canal, by the lacteals, into the vascular system, may produce an immediate excitation of the heart, and a state allied to the hot stage of the intermittent. This is no mere speculative opinion, since every practitioner will have observed that the exciting effect of articles of food, stimulant beverages and medicines, is in proportion to the previous emptiness of the system, and duration of previous privation. Upon this view of the matter we may explain the circumstance that many persons have recovered from moderate collapse of cholera without well-marked reactionary phenomena, and, if correct, we may base upon it a precaution as to treatment, namely, to withhold too abundant supply of highly nutritive food, strong beef-tea, strong jellies, and fermented liquors, during reaction.

I shall offer few remarks on the subject of the treatment of cholera. Every carefully recorded instance of marked collapse, whether ending in death or recovery, is a valuable addition to the stock of materials from which hereafter the most generally successful mode of treating each stage of cholera may be deduced. Entertaining this opinion, I am much indebted to Dr. Satro and Mr. Harper for the elaborate manner in which they have reported this case. Possessing no *specific* or *antidotal* remedies for the cold stage, Dr. Satro, when first called to the patient, and our resident medical officer, Mr. Burch, subsequently to the patient's admission, and previously to my arrival at the hospital, employed those means which the nature of the symptoms obviously appeared to indicate. Persevering frictions of the limbs, to aid in preventing entire stasis of the remaining blood-fluid in the vessels most distant from the heart—and to assist in relieving cramps, counter-irritation and friction to the epigastric and lumbar regions—appropriate means to assist in relieving congestion of the subjacent viscera—artificial warmth to supply if possible the place of that internal animal heat so essential to the maintenance of life.

I shall very briefly notice the small doses of opium, assafœtida, and camphor, administered early in collapse, believing them not to have been mainly instrumental in the patient's restoration. The total quantity of opium taken was about five grains; but as vomiting was incessant during its administration, it may be presumed that a small portion only, if any, entered the system.

The application of chloroform by inhalation, and by the mouth, was unquestionably serviceable, by allaying vomiting, whenever it was employed: it also arrested hiccup, which was sometimes troublesome at a late period of collapse. Each enema of saline watery hot fluid was distinctly followed by an increase of temperature at the tongue and hands, and the expression of relief by the patient. The use of enemata of fluid of less density than the blood imperfectly circulating in the vessels, appears justifiable on theoretical as well as on practical grounds. During a lull in the active transudation of serous matters from the capillaries into the intestines, the law of endosmose, or the imbibition of thin fluid from the intestine to dilute the viscid contents of the bloodvessels, will probably come into operation. It was matter of general remark in this case, active diarrhœa having ceased, that of the many pints of watery fluid injected per anum, a very small quantity ever repassed the sphincter.

We cannot pass unnoticed the administration of a considerable quantity of calomel: of this the patient took about a hundred and ten grains; part was rejected by the stomach, sufficient remained to produce incipient ptyalism. The appearance of tumefaction of the gums was nearly simultaneous with that of bile in the ejections and dejections. An ardent believer in the dependence of cholera upon a poison that by its action upon the liver arrests the secretion of bile, instead of regarding the absence of bile as of secondary importance, as a mere symptom of the complaint, might point triumphantly to this case of recovery, after or during the administration of calomel, as an illustration of the specifically beneficial or antidotal action of the mineral upon the liver, and consequent recovery of the patient. I do not participate in this theory of the pathology of cholera and primary implication of the liver, but believe that as a consequence of the stage of collapse, the whole of the abdominal viscera suffer from congestion of impure blood in them—that is, in the capillaries of these organs, and that calomel is a medicine certainly not counter-indicated for the removal of this condition.

Moreover, the experience I acquired at the close of the former visitation of the cholera, of the comparatively greater success attendant upon the use of calomel, and free compliance with the desires of patients respecting beverages, than that which attended the use of opium and stimulants, when the disease first arrived in this country, as well as the recorded experience of Indian and other practitioners in favour of calomel, impressed me with the necessity of discarding opium during collapse, and of giving fair trial to calomel. I believe that calomel is inoperative during intense collapse; but that when the patient is so fortunate as to have survived the first intense shock of severe collapse, and is struggling into the reactionary stage, the mineral is capable of powerfully contributing to incline the balance towards ultimate recovery.

In the present case, the treatment during the reaction consisted simply in the administration of salines, lemonade, with a light diet of chicken broth, weak beef-tea, gruel, and arrow-root. The appetite for solids slowly returned, having partaken of a portion of bread on the sixth day. The consumption of fluids during the first five days passed in the hospital, averaged six quarts in each period of 24 hours. Brandy six ounces, and sherry eight ounces, constituted the entire quantity of alcoholic fluids dispensed to him during his stay in hospital, from which it is apparent that the stimulants formed a comparatively unimportant part of the treatment.

Decoction of bark was prescribed, on account of the alternation of flushes and chills. This agent may have contributed to convalescence in virtue of its febrifuge qualities: it doubtless contributed to the restoration of appetite.

From all that I have witnessed of malignant cholera, I am impressed with the belief that it is more nearly allied to febres than to any other nosological class, and consequently consider that quinine administered before supervention of decided collapse, in the large doses required to arrest malignant intermittents, say in doses of half a drachm and upwards, deserves a trial. It is probable that this idea has been acted upon by others, although I am not aware of any experience that has been recorded on the subject.

I cannot conclude these observations, without adverting to the great length of time during which the characteristic dusky colour of the collapse of malignant cholera remained in diminished intensity, distinctly perceptible in parts of the face, even so late as Nov. 15, eight days after urgent symptoms commenced. This persistence of discolouration is the more remarkable, as it was observed three days after the pulse became tolerably strong and full, and the skin had at times acquired the natural temperature. The discolouration was not attributable to ecchymosis, and therefore was probably due to the stagnation of dark blood in the capillaries, induced during the stage of collapse, and having yielded to the *vis a tergo* of the circulation, notwithstanding the restoration of the heart's activity, and to the capillaries themselves not having recovered from the atony into which they were thrown during the earlier stages of the disease. How clearly does this prolonged stasis of carbonized and otherwise deteriorated blood in the textures of the surface of the body, where it became visible to the naked eye, reveal to us the probable condition of numerous capillaries of many internal organs. At the summits of the cheek-bone, where the vessels are usually larger, and where consequently the ruddy colour of the human face is more often perceived, a reddish flush was in our patient perceptible as soon as reaction supervened,—whereas in those parts of the vascular integument of the face, where the vessels are smaller, less numerous, or where capillaries predominate, a longer time elapsed before the revivified current of the life's blood found entrance into them. If the function of many capillaries of important internal organs, as the lungs, liver, or alimentary tube, be arrested by stasis of impure blood in them, can we wonder that the struggle for existence during attempts at reaction, so often terminates in a manner disastrous for the patient? We cannot be surprised that few recoveries from complete collapse ever takes place, under any mode of treatment.

Finally, I may direct attention to the result of Dr. Letheby's analysis of the urine first voided after collapse: the reputation of my colleague justifies me in attaching the utmost importance to the observation made by him, that the urine contained an unusually large quantity of animal extractive matters, thrown off from the blood, probably in an incipient putrefactive state. The proved approximation of the urine in this instance to the urine of typhus and pneumonia, supports the idea of malignant cholera being in its nature allied to fevers, and justifies the system of registration adopted in this country, under which cholera is arranged with the zymotic diseases. It is to be hoped that other practitioners, who possess opportunities, will subject the urine of cholera reaction to analysis, with the view of determining whether the condition described by Dr. Letheby be exceptional or universal.

THE CHOLERA AT CHATHAM.

THIS disease has made its appearance at Chatham. Eleven cases occurred in three days, and of these seven proved fatal. The fatal cases have been confined to a small hamlet called the Cinque-port, near Gillingham, which lies in a swamp, the houses being surrounded by mud at low water, and some of them having a cesspool behind. In addition to the natural disadvantages of the locality, heaps of filth are suffered to accumulate at the very doors of the houses, and, altogether, few spots could be selected where this terrible disease would be likely to commit greater ravages.

THE DEAF AND DUMB ASYLUM.—MEDICAL APPOINTMENT.

MR. EDWARD COCK, Surgeon of Guy's Hospital, has been appointed Consulting Surgeon to the Asylum for the Deaf and Dumb, vacant by the death of Mr. Callaway.

Original Communications.

ON THE

DISEASES OF THE MEDULLA SPINALIS,

AND ITS MEMBRANES.

By R. A. Stafford, F.R.C.S.

Surgeon Extraordinary to H.R.H. the Duke of Cambridge, and Surgeon to the St. Mary-le-Bone Infirmary.

The medulla spinalis, or spinal chord, like the brain, is enveloped by membranes—the dura mater, the arachnoid membrane, and the pia mater. Its substance consists of two structures—the white and the grey; and it sends forth nerves of volition and sensation, supplying the whole trunk and limbs. It is liable, also, to the same diseases as those of the brain, and of which it is my present intention to speak.

The diseases of the contents of the spinal canal may be divided into two classes—those which affect the membranes, and those which affect the medulla itself. I shall first describe those of the membranes. They are liable to inflammation; to dropsy, or hydrorachitis; to extravasation of blood between them, or, as it may be more properly termed, apoplexy; to have cartilaginous depositions formed upon their surfaces; and to the formation of tubercles in their structure.

All the membranes of the spine are liable to inflammation, which may arise idiopathically or from injury. The arachnoid is the one most frequently attacked by it, and when thus attacked it is called arachnitis spinalis. The cause of arachnitis is very obscure. Sometimes it comes on very gradually, while at others suddenly. The symptoms which denote it are the following:—the patient at first commonly finds himself generally unwell, without being able to describe any particular symptom, excepting that he has not the same power over his limbs as usual. At length he has pain in the back, in one particular part, or along the whole course of the spine. Contraction of the muscles of the back ensues, which varies from simple muscular rigidity to violent spasm; affecting one particular part, according as the disease is situated, or its whole extent: accompanied with these symptoms there may be disury, retention of urine, and complete constipation. As the disease advances, the pain along the spine increases; the muscles become violently spasmed; there is difficulty of deglutition and respiration; convulsions of the whole frame; trismus; at length opisthotonos, and all the symptoms belonging to tetanus. But the symptoms of arachnitis are not always equally acute. M. Ollivier remarks, that the patients only have pain and rigidity along the spine, and are even enabled to walk, or turn themselves in bed almost until death. Neither are the symptoms in every instance equally violent at *all* times; like tetanus there are paroxysms arising spontaneously, without being produced by an attempt to move any of the limbs; at other times, also, the rigidity remains fixed until dissolution. The circulation does not at first appear to be much affected by the disease; the pulse remains in a natural state; the same may be remarked of some cases of severe injury of the spine: there is hardly any perceptible change until the last moments of the patient.

In arachnitis, however, after a time it increases in the rapidity of its beat; it becomes quick, irritable, and feeble, but irregularity seldom or ever occurs. The tongue at first is slightly furred; as the disease advances, however, it becomes coated with a dark brown fur; it then is dry and rough; and lastly aphthous. At this period the patient complains of extreme thirst, with a burning sensation in the throat, and difficulty of swallowing.

In true arachnitis there is never paralysis of any of the limbs, or loss of sensibility in them. It often happens, however, that one or both of these symptoms occurs at the same time: when such is the case, the spinal chord itself is affected, being either inflamed or softened in its structure. It is seldom found, also, after the death of a patient suffering from this disease, that the arachnoid membrane is alone inflamed: the pia mater is frequently affected, as well as the dura mater. The corresponding membranes of the brain, also, are continually inflamed, giving rise to those symptoms which usually occur in such affections of this organ.

It fortunately happens that the ocsame character. The symptoms certainly are the same, and in the instances I have seen generally, the morbid appearances are so also. I am inclined to think what we have termed idiopathic tetanus, is the same as arachnitis spinalis. I have only seen three cases independent of those of traumatic tetanus. The first occurred in a young man of 22 years of age. He had been lying on his back on the damp grass with a hot sun in his face. The same evening he was taken with pain in the back, which he considered rheumatism. On the following day the pain had so increased that he applied for admission into the St. Mary-le-Bone Infirmary. At that time there was a rigidity of the muscles on each side of the spine, with a slight inclination to opisthotonos. His pulse was not much accelerated, being only 78 in beat, and his tongue was slightly furred. He was sent to bed, and ordered a brisk aperient, and as in the evening the symptoms had not abated, he was bled to ℥xvj. He also was ordered calomel and opium every six hours. On the following day he was no better, and therefore he was cupped to ℥xx. along the whole course of the spine. This appeared to give him some relief, but after a few hours the paroxysms came on again. He was again cupped ℥xij. Some relief was obtained, but the opisthotonos became more complete, and the paroxysms more violent. He continued the treatment, but on the seventh day he died in a paroxysm of spasm: he never had trismus. The vertebral canal was examined, and it was found that the arachnoid membrane was inflamed throughout its whole course, and that there were patches of lymph upon it in several places, and in the middle of the spinal chord externally there was extravasation of blood between it and the pia mater. The other membranes were also inflamed.

The next case, which I shall relate from memory, occurred in a man who had walked a journey of many miles in wet weather. At the end of it his limbs became very stiff, and he had pain in the back, with rigidity of the muscles. The pain increased, and the spine was slightly bent backwards. He was moist, but slightly furred. He was freely bled and purged; took calomel and opium every six hours, and was cupped on each side of the spine. No visible improvement took place. His pulse became rapid, and his tongue brown and dry, and he was at times delirious. The tetanic paroxysms were very violent. He died on the sixth day from the commencement of the attack. On examination, the whole of the arachnoid membrane was found to be inflamed, and there were depositions of lymph on its surface, and fluid in the canal. The dura and pia mater participated in the inflammation, but the chord was healthy.

The third case occurred in a woman, and no particular cause for it could be assigned. She was first seized with trismus, and then opisthotonos. She was treated by camphor and opium, and purging at the same time. She died on the eighth day, the symptoms varying, sometimes more or less acute; at length a sudden violent spasm terminated her life. On opening the spinal canal, the arachnoid membrane was inflamed, and there were several patches of lymph upon it in different parts. There was also effusion of fluid between the arachnoid membrane and pia mater.

But, to give a more correct idea of arachnitis spinalis, let us refer to the work of M. Ollivier, who has deeply studied this subject. He records several cases of this disease, and of some of which I shall make a brief translation. The first occurred in the person of "Gabriel François."

Case I.—Gabriel François, aged 24, a cook, of a robust constitution, entered the Hôtel Dieu, after an illness of only six days: he did not complain of any particular part being painful, but his uneasiness was general: his features were anxious, but he was not dejected; his replies were slow, and his lips moved as if he was going to weep: no fever was observable. The heat of the skin natural; there was no apparent intestinal disturbance. Two days passed without change, the patient walking occasionally about the ward; but there had been no flow of urine during the three days he was in the hospital. The catheter was employed, and he was more particularly examined: the expression of his face was that of suffering, and he appeared always on the point of crying; his replies were now vague and slow; incapable of giving further information relative to his complaint. On exploring the abdomen the bladder was found considerably distended; and on attempting to raise the inferior limbs he complained of great pain, particularly in the right; he suffered in both, and was unable to move them himself, nor to straighten them when we bent them,—they fell like inert masses on the bed, if abandoned to their own weight; in fact, they were deprived of the power of moving, but they were not insensible.

The vertebral region was examined, but there was no unnatural projection, no traces of contusion; the patient could not adjust himself in his bed without assistance, suffering from the slightest bending of the spine: on endeavouring to turn his neck, which was in a small degree bent backwards, it gave him considerable pain; his replies were yet slow, but more reasonable, with the same irritability and inclination to cry.

No alteration was observable in the superior limbs: the pulse quick and strong; the skin hot; the tongue presenting no particular appearance. Bowels not open during five days; no stiffness nor convulsions in the inferior limbs.—(Bleeding, two palettes, two injections, and fever diet.)

The morning following, nearly the same state: distended bladder, quick pulse, hot skin, the members presenting the same phenomena; always suffering when moved, particularly on the right side; the blood taken the previous evening was not buffy.—Injections, cooling drinks (tisane). At night, no change—more bleeding, two palettes.

Next day, the same phenomena, with the exception of a feebler but quicker pulse: distended bladder (catheter); fetid urine, turbid, reddish, containing mucus. The blood from the last bleeding was buffy, forming a white bed of two lines thickness, and margined. — (Cupped.) The night symptoms greatly increased; the pulse almost disappeared, but quicker; yet the heart beat strongly. Contractions were perceived on the right lateral part of the chest. The lower limbs retained their sensibility, but immoveable—acute pain when any attempt was made to alter their position. The paralysis and morbid sensibility began to extend to the arms, which became slightly stiff. The patient clasped his hand with less force, and complained when his arms were moved, particularly the right. The neck was stiff; so that if you raised the patient by his head only, he would fall without bending, and suffered much.

Next day, the same state; small filiform thread-like pulse, and distended bladder (catheter); the coats of the bladder lost all contractility, so that after emptying it, if you pressed the hypogastric region, you might hear the air escape by the catheter on suddenly withdrawing the hand. The arms more powerless; a motion; mustard poultice to the inferior limbs. The condition of the patient is more deplorable; no previous symptoms are ameliorated; the pulse not perceptible, whilst the heart maintained its force; the inferior limbs still very sensible to the touch. The contractility of the superior limbs was not much diminished; they were partly bent, but in a decided state of stiffness. Every movement of the body was accompanied by pain, and the patient continually utters cries of agony. The head is slightly turned backwards to the left; the right pupil more dilated than the left; the physiognomy marked by anxiety and suffering; the intellectual faculties as on the preceding day; slow respiration, the movements of the sides incomplete; the same distension of bladder; escape of fetid gas and urine by the catheter; no motion (fomentations, sinapisms, cooling drinks); died on the 10th day.

Autopsy.—Exterior: nothing remarkable; stiffness of the body not particular. Brain injected, and distension of the cerebral vessels; the membranes healthy; no serosity nor infiltration on their surface; the lateral ventricles very distended, and containing three-sixths of a glass of opaque serous fluid; the ventricles were dilated, and also held a portion of serous fluid, according to their capacity. The covering membranes offered no phenomena, the cerebral substance having its usual consistency and colour. The vertebral canal opened to its extent; there was observable in the tissue exterior to the dura mater a network of vessels injected with blood. The dura mater being laid open its whole length, the marrow appeared to be covered with a gelatinous layer of five or six lines thickness, yellowish, immediately joining the pia mater. This bed was very thick near the lumbar portion of the marrow, and also of a deeper yellow, diminishing gradually in thickness as it reached the third or fourth cervical vertebra, where it ended; neither was any trace left near the cauda equina; it was likewise less thick and less apparent at the anterior than the posterior surface of the marrow. This gelatinous matter was situated between the pia mater of the marrow and the corresponding arachnoid membrane; that which covered the *dura mater* was also lined with a very thin false membrane, granulous, but of little consistence. This matter, puriform and concrete, under the *arachnoid*, was not liquid, either from its tenacity, or because it was contained in a web-like cellular tissue.

What is remarkable, is the different thickness of this bed, which was less apparent on the anterior surface of the marrow than on the posterior; very thick at the bottom of the marrow, where its quantity was considerable, diminishing upwards; it was tolerably consistent, and was crossed by bands like lashes of leather, although not thicker on the right more than the left. The inferior part of the spinal canal under the *arachnoid* contained four or five spoonfuls of opaque serum. The medulla spinalis retained its natural appearance: it was rather soft, but its tissue not injected.

Thorax.—Lungs adhering in every point of their surface; heart healthy, containing in its cavities liquid and solid clots of blood.

Abdomen.—Liver healthy. The mucous membrane of the stomach folded, grayish, and of a slate-colour, and even slightly blackish in many parts, occasionally pointed with red blood; the intestines were especially tinctured with this colour. The mucous membrane of the bladder was thick, marbled red and slate-colour, evidently much inflamed, filled with thick and fœtid urine.

Case II.—F. S., aged 28, a mason; robust; never ailing, except some slight rheumatic pains; experienced a lassitude in all his limbs, without knowing the cause. He entered the hospital at night; had good quiet sleep; his face rather animated; pulse quick, 90; (four palettes of blood from the arm), not inflamed.

In the evening, face flushed and moist; eyes projecting, injected; *dyspnœa;* pulse quicker; dorsal pain; (foot-bath, mustard poultice, and 20 leeches at ano).

3rd day.—Bad night; agitation; calmer in the morning; a more extended and greater pain in the back and thighs, *opisthotonos;* partial convulsions in the face; general sweating; abdomen large, hard, and indolent; constipation; (lavements, cataplasms to abdomen).

4th day.—Complete abatement. At midday all the symptoms reappeared augmented in severity; general trembling; belly swelled; stiffness, with loss of sensibility of the limbs; cramps and permanent constipation in spite of enema; bladder distended by urine; penis size of the little finger, hard, and stiff. It was difficult to use the catheter, because the penis would not accommodate itself to the bending form of the instrument.

5th day.—Paroxysms at 10 in the morning, but he was less violent; he was bled in the foot; the patient was greatly agitated during the night, and was expected to expire.

6th day.—Excessive prostration; coma; pulse small but *quick,* 110 pulsations; feet and legs cold and insensible, although agitated by *slight* convulsions. (30 leeches along the spine; catheter); penis same state; no stool.

7th day.—Nothing new; tongue red and dry; teeth and lips encrusted; stronger dyspnœa.

8th day.—All the symptoms increased; copious sweating; loquacious and delirious; short; long and general cramps. At times reason reappeared, and his replies were more exact.

9th day.—Emollients, &c. were exteriorly continued. At 10, the patient raised himself; agitated; moved a few steps and fell; expiring at 12, with convulsions, and uttering piercing cries. The pupils were dilated, and the body covered with sweat.

Autopsy 24 hours after death.—The nervous sinuses of the vertebral canal were gorged with blood; the dura mater natural; the spinal arachnoid opaque, of whitish-yellow, containing a milky fluid, filling the whole of the space between it and the pia mater. This last was injected, and covered with an albuminous concretion of two lines thickness occasionally, but the size varying as the marrow itself through the whole extent of the canal. All these parts exhaled a very remarkable gangrenous odour. The arachnoid of the brain healthy generally, but at the hinder portion of the brain, upon the arachnoid membrane, was pointed with a multitude of red spots, grey, brown, and of various sizes, which imparted to this organ a very singular appearance. It was impossible to raise it, without at the same time raising the medullary substance upon which it laid, which was soft, fluid, and purulent. The whole of its tissue was softened: it separated easily, and diffused a most marked gangrenous odour. In dividing it, it seemed to be formed of a mixture of white, black, and yellow matter, here and there tinged with dirty brown. The white substance of the brain was pointed, and the cortical in its natural state. The third and fourth ventricles had a little thick liquid, similar to that which filled the vertebral canal. The lateral ventricles were empty.

Thorax.—Nothing remarkable.

Abdomen.—The stomach and the small intestines were pointed with red spots; the mucous membrane red and thick; the mucus tenacious and abundant; there were many lumbrices in the duodenum; the bladder distended and rosy in the interior. The other viscera healthy.

Case III.—M. M. Petit, druggist, 35 years old, formerly in the army,—sanguine temperament, thin, subject to rheumatic pains, some years previously having suffered from sciatica, was attacked with an intense odontalgia, which was followed by a painful swelling of the cheek, and a profound abscess formed in the region of the temple. At this time the patient was tormented by an acute pain in the nape, and half the posterior and superior of the neck, which periodically took place, beginning at 10 at night, and leaving off about 3 in the morning. This pain, dull at first, soon became tearing and burning, analogous to neuralgia. It was almost impossible to move the head.

The tenth day, the sensation of pain in the neck was abated, except when the patient moved his head. He walked by the assistance of an attendant, but he began to suffer on moving his body, or turning in bed: this inconvenience was, however, lessening daily, until the end of eight days, when it reappeared with redoubled violence, and, that of the nape of the neck being easier, the head moving without suffering; the jaws, which were before almost immoveable, now would separate an inch and a half. Pains increase between the shoulders during an agitated night, but diminish in the morning.

The next day the patient could hardly move; back very painful, as also the lower limbs, and the legs were seized with anguish: in the evening the pain in the legs increased to an intolerable degree, accompanied with a rigidity of the muscles of the inferior limbs. The following eight days, alternate aggravation and remission of symptoms.

The pain in the back suddenly ceased on the tenth day, but after about six hours reappeared, in all its intensity, along the whole of the back, and lower limbs, and shooting now and then into the nape of the neck and its posterior parts, which became stiff, although the superior extremities retained their moveability. In the night the patient was drowsy and delirious; respired with difficulty; quick and irregular pulse; the body covered with sweat.

On the eighteenth day his faculties were restored; he drank frequently during the day, but without altering the position of his head; he experienced pain only when touched; no urine since yesterday; a catheter was inserted, remaining, which caused a permanent erection, which symptoms had not previously existed. Pulse quite concentrated and more regular; continual perspiration. At night bad symptoms returned; the patient, in his delirium, took out the catheter, and offered resistance to prevent its replacement. Notwithstanding his delirium, he repeatedly gave utterance to loud complaints of suffering, if the slightest attempt was made to move him. This state continued until his death, which occurred on the twentieth day. The delirium continued for seven hours previous to death, and the patient had a copious and liquid stool of a greenish colour, after which he gradually sunk; saliva from either side of his mouth; depression succeeded delirium, and at 9 o'clock he died as if struck by apoplexy.

Autopsy.—The ventricles of the brain contained four or five ounces of serum, but the fourth was particularly distended. In the three first the liquid was clear, while the last was troubled, and contained whitish flakes. The membranes which covered the lateral ventricles and the third were untouched; but the fourth, in three points particularly, was covered by a bed of a yellowish pseudo-membrane. The brain was injected, but healthy; the pia mater at the base of the brain was slightly infiltrated. In detaching the vertebral canal, we observed in the midst of its fibres, four fingers wide, near the dorsal region, an effusion of black blood, which bore the apperrance of ecchymosis. At this point the muscular tissue had not sensibly lost its normal consistence. When an incision was made into the muscles of the lumbar region, about half an ounce of white pus followed the instrument, which came from an opening situated in the space which separates the spinous processes of the third and fourth lumbar vertebræ. After laying the spinal canal open, it was easy to observe that the purulent liquid came from the interior of the membranes of the marrow, which in their inferior parts were much distended, and it could be traced under the arachnoid membrane.

In addition to the cases here recorded, M. Ollivier has related many more of equal consequence, and which I beg the reader to peruse.

From the morbid appearances seen after death, and the symptoms of the disease, there can be but little doubt what the treatment ought to be in that of arachnitis spinalis. The attack is inflammation of the arachnoid, and more than probable of the other membranes of the medulla. We therefore have only one course to pursue, which is to employ those means which will reduce inflammation. The medulla and its membrane are so deeply seated, and so strongly protected, that it is with difficulty we can get at them; we therefore must employ general treatment as well as local. If the patient in arachnitis be phethoric, the pulse full and strong, blood should be taken from the arm, until syncope occurs: indeed, I am inclined to think venesection ought to be employed in the first instance, in all cases, until this effect is produced; for if the vessels of so delicate a membrane be completely emptied before they have lost their power of contractility, it is possible they may contract, and thus prevent the return of blood into them, whereby the disease may be arrested. In addituon to general bleeding, blood should be repeatedly abstracted by cupping from each side of the spine along its whole course. Counter-irritants should be applied on each side of the spine in the same manner, and those which will effect this object the quickest are the best.

It is of the greatest importance in this disease that the bowels should be kept freely open. At first it would be advisable, perhaps, to give an active purgative, and then keep up their action by milder doses. In addition to these means, I am inclined to think that calomel and opium, given on the same principle as in iritis, would be the most probable chance of altering the action of the arachnoid membrane, and causing it to absorb any deposit it may have secreted.

To allay the paroxysm of spasm is most important, as it frequently happens that the patient both in arachnitis and tetanus dies in one of them. The tincture of the Indian hemp has been much employed in India, and lately in this country, for that purpose, and it is said to be very effectual. But there are other remedies, which have lately been discovered, which appear to me very likely to be attended with a happy result,—I mean the chloroform and ether. When the violent spasms occur, the patient might be kept under the influence of these remedies as may be judged needful at the time; and thus, by preventing the paroxysms, the means adopted might have more time to have a more decided effect.

[To be continued.]

NARCOTISM BY THE INHALATION OF VAPOURS.

By John Snow, M.D.
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[Continued from page 844.]

Part VIII.

Conditions of the patient which influence the action of chloroform — age— strength or debility—hysteria—epilepsy—renal convulsions—pregnancy —disease of the lungs—of the heart— tendency to congestion of the brain— diet previously to inhaling—Administration of chloroform in amputations.

Before entering further on the subject of the administration of chloroform, it will be expedient to inquire what are the circumstances, if any, which forbid its use. And experience requires me to make the remark of this substance, which I made last year of ether,—that I know of no state of the patient, with respect either to age, constitution, or disease, which positively contraindicates the use of it, where it is required to prevent the pain of a severe operation, or, I may add, of one the patient greatly dreads. In making this statement, I must not be considered to be recommending the indiscriminate use of chloroform. On the contrary, I consider that everything connected with the patient should be taken into the account, and duly weighed, and the decision arrived at accordingly. And when I state that I have administered chloroform in almost every possible condition in which a patient could require an operation, it must not be considered that I have acted without discrimination, but rather, that going on gradually, and acting on previous experience, supposed objections have one by one vanished, and it has appeared that care in the mode of giving the vapour was the main guarantee, both of safety and success. This view of the subject is entertained by others as well as myself; for, it must be recollected, that I have never given chloroform or ether in an operation, without the concurrence of other medical men.

Chloroform acts more pleasantly, however, on some patients than on others; and we may therefore proceed to consider the circumstances which influence its mode of action. The period of life in which chloroform acts most pleasantly is childhood. In children, under thirteen years of age it scarcely ever causes either mental excitement, or any of the struggling which is not unusual in adults just before insensibility ensues, and immunity from pain is obtained with less narcotism of the nervous centres than in older subjects, as I stated before. It is never necessary to carry the narcotism further than the beginning of the third degree in children, at which time I believe their eyes are always turned up; and very often it is not requisite to carry the effects of the vapour beyond the second degree. Indeed, I have seen a child look about it, with a smile on its face, in the middle of the operation of lithotomy.

In a paper which I read at the beginning of the year, I recommended ether for children, in preference to chloroform, on account of the action of the latter being extremely rapid in young patients; but with the apparatus I described in the last paper, the vapour of chloroform can be so diluted with air as to become as mild and gradual in its action as one pleases, and since I have had small face-pieces suited for infants, I have generally given chloroform, and have administered it to a great number of children, from three weeks old upwards. But when the practitioner is only provided with a handkerchief or sponge, I still consider that the use of chloroform is not perfectly safe, and that ether ought to be employed.

As age advances, the action of chloroform, though equally safe and effectual, is less uniformly pleasant in appearance. In old age, indeed, there is frequently either groaning or a slight degree of stertor, not only during an operation, but even before it begins; so that the effect of the vapour, although quite as satisfactory to the patient, is less agreeable to the friends who may be looking on, than in young subjects. I have often exhibited chloroform in extreme old age, and always with the best effects: indeed, I consider that age is not a source of danger when care is taken. Old people are generally rather longer than others in recovering their consciousness, probably because, owing to their circulation and respiration being less active, the vapour requires a longer time to escape by the lungs. They sometimes do not perfectly recover their former state till twenty minutes or half an hour has elapsed from the conclusion of the operation.

The general condition of the patient as regards robustness, or the contrary, has a considerable influence on the way in which chloroform acts. Usually the more feeble the patient is, whether from illness, or any other cause, the more quietly does he become insensible; whilst if he is strong and robust, there is very likely to be mental excitement in the second degree, and rigidity of the muscles, and probably struggling in the third degree of narcotism. This action of the muscles generally occurs when they are well nourished, whilst in the cases in which they are flaccid, and probably pale, it is usually absent.

The special conditions termed diatheses, seem to have no regular influence over the action of chloroform, except the hysterical one, and this is apt to occasion a little trouble; for as soon as a patient who is subject to hysteria loses her consciousness, from the effect of the vapour, a paroxysm of the complaint is sometimes occasioned. This, however, can always be subdued by proceeding with the inhalation. But the hysterical state, in a few instances, returns, and becomes troublesome, as the effect of the vapour subsides. In two cases that I have met with, it continued for three or four hours. I saw one case, indeed, in which the hysteria lasted much longer, but it was kept up by the alarm of the practitioner in attendance, who was not well acquainted with the action of chloroform,—had given, I believe, an overdose in the first instance, and afterwards mistook the hysteria for the continued effect of the vapour. I was called upwards of thirty hours after the inhalation, when the anxious attendance on the young woman being discontinued, and some of the usual remedies for hysteria applied, she began to amend, but remained in indifferent health for some time. I believe that one or two cases of continued convulsions after chloroform and ether, related in the medical journals, were cases of hysteria. In trying to estimate how far the provocation of hysteria is a drawback from the benefits of chloroform, it must be remembered that the pain of an operation, and still more, perhaps, the anticipation of it, would cause an attack of hysteria in many patients; and I think the proper view to take of the subject is, that whilst a tendency to this complaint ought strictly to forbid the inhalation for amusement, which was at one time somewhat the fashion, it should not interfere with its use in a painful operation, or in any necessary operation, to which the patient cannot otherwise be induced to submit.

Persons subject to epilepsy are liable to have a fit brought on by inhaling ether or chloroform. This occurred in a young lady who had a tumor of the lower jaw, removed by the late Mr. Liston, and took ether, but I was able to subdue the convulsions before the operation began, by continuing the vapour, and with chloroform, this, of course, could be more quickly accomplished. It was stated, in one of the foreign medical journals, that chloroform is so certain to cause a fit in epileptic persons, that it may be used to detect impostors pretending to be subject to this disease; but Dr. Todd, who has used chloroform with some advantage in the treatment of epilepsy, in King's College Hospital, has informed me that it does not always produce an attack, even when carried to the extent of causing complete insensibility.

I may here mention a case, though not connected with a surgical operation, in which chloroform caused a recurrence of renal convulsions, from which the patient had been suffering:—A working man, aged about 35, had been in ill health for some weeks before I was called to him on Feb. 19, on account of his being found insensible on the floor. He had in some measure recovered when I arrived, but was in a state of partial stupor, which on the following day was increased, and accompanied with violent convulsions. There was œdema of the face and extremities, and his urine was albuminous, scanty, and of diminished specific gravity. He was bled from the arm, and took digitalis and potash, and on the 22nd, had quite recovered from the convulsions and stupor, and the urine was improved. On the 23rd, however, he became affected with delirium cum tremore, and in the evening I administered chloroform to him, having seen it apparently of service in two or three cases of this disorder. It no sooner began to take effect, however, than violent convulsions came on, of exactly the same kind as those with which he had been affected three days before, and accompanied with the same frightful distortion of the features. Although I did not deem it unsafe to continue the chloroform, I thought it more advisable to discontinue it, and to try the effect of opium. The chloroform having been left off, the convulsions almost immediately subsided, and in three or four minutes the patient was in his former state of delirium. He took twenty-five minims of tincture of opium, and the same dose three hours afterwards. He had a good night's rest, the next day was free from the delirium, and he gradually recovered his health. At the time the patient took the chloroform, there is no doubt that his blood still contained a certain amount of urea and other impurities, and the vapour seemed to act as an additional quantity of these impurities would have done, whilst opium had a different and beneficial effect.

Having noticed the general conditions of the patient, it remains to be inquired how far local disease interferes with the action of chloroform; but previously, the state of pregnancy may be noticed. I recollect two instances in which the patients were pregnant. One was that of a lady, about six months advanced, for whom Mr. Rogers removed some teeth. The chloroform had been recommended by her usual physician before I saw her. The other was a patient in St. George's Hospital, less advanced in pregnancy, on whom Mr. H. C. Johnson operated for the removal of a small fatty tumor. The result was quite favourable in both cases. The narcotism was carried only just to the third degree, and I think that care should be taken not to induce very profound insensibility in pregnancy.

Any affection of the lungs that would not prevent a surgical operation, would be no impediment to the administration of chloroform. I have exhibited it in a few cases in which there was evidence of crude tubercles, and in one case in which cavities existed, and the only result was, that the cough was generally relieved for a day or two afterwards. This has generally been the case also in chronic bronchitis, which has existed in a considerable number of patients. There is sometimes a troublesome fit of coughing at the commencement of the inhalation, when any pulmonary affection exists, but this soon subsides. I have not seen the least injury to the respiratory organs result from the use of chloroform in any instance.

I have already alluded to affections of the heart, and have little to remark now, except that chloroform, carefully administered, is less likely to be prejudicial than severe pain. The patients, however, should be attended to afterwards, and if the chloroform is followed by sickness and coldness, as happens in a few cases, warmth should be applied externally, cordials given, and, if necessary, effervescing draughts, or an opiate. Patients with heart disease, it is well known, are unfavourable subjects for operation under any circumstances; and if they become infected with an animal poison during or subsequent to the operation, have but little chance of recovery. A man, who had dilatation and thinning of the heart, took ether last year, in St. George's Hospital, whilst amputation of the leg was performed. He was attacked with sloughing phagedena, then prevalent, and died on the seventh day, in one of the cold fits attending the disease, there being apparently not strength enough in the heart to establish a reaction from the rigor. And in the case of a gentleman who inhaled chloroform this last summer for the removal of a tumor, and became affected with erysipelas and diffuse cellular inflammation, the symptoms took on a peculiarly low type, and he died on the fifth day. After death there were found dilatation of the heart and thinning of its walls.

As narcotics are usually injurious when there is a tendency to congestion of the brain, it was apprehended by many practitioners that ether and chloroform would be unsafe for such patients; probably the transitory nature of the narcotism induced by inhalation, during an operation, is what renders it harmless. At all events, I have met with no ill results, although some of the patients had suffered from attacks of apoplexy, followed for a time by hemiplegia. This was the case in a man aged 66, on whom Mr. Keate operated, in St. George's Hospital, on the 3rd of August last, for the removal of a tumor situated on the thigh.

It is desirable to give some direction respecting the diet of patients about to inhale chloroform, for if it is inhaled immediately after a meal, there is increased liability to vomiting; and, on the other hand, it is not advisable to inhale after a long fast, for when sickness has occurred in this condition, it has been, in some instances, of considerable duration, and accompanied with more than usual depression. The best preparation appears to be a very moderate breakfast or luncheon two or three hours before the inhalation. The operations in the hospitals are usually performed soon after the patient's dinner hour. The most suitable arrangement in these establishments seems to be, that the subjects of operation should have no dinner, but should have a slender lunch during the forenoon; such as a little bread and butter, bread and milk, or gruel.

Chloroform in amputations.

When moving the patient from his bed to the operating table would cause great pain, as in some cases of ulceration of the cartilages of the knee-joint, the chloroform may be administered with advantage, so as to induce insensibility prior to his being moved. In University and King's College Hospitals, I have exhibited chloroform in several cases of this kind, in the wards, previous to the removal of the patient to the operating theatre, and have afterwards given some more of the vapour just before the operation. In St. George's Hospital this has not been required, as patients so situated have been carried to the theatre on their beds. I have sometimes given just enough chloroform or ether to children to produce unconsciousness, merely to prevent the fright they would experience from seeing any of the preparations for an operation.

The position of the patient usually chosen by the surgeon in the larger amputations—that on the back, with the head and shoulders raised—is very convenient for the chloroform. If the sitting posture is preferred for amputations of the upper extremity, it is desirable to have the patient's back well supported, and the legs raised and supported, either on the couch, or another chair; otherwise he will be liable to slide off his seat when insensible. The tourniquet may be put on either before the inhalation, or after insensibility is induced, but, if before, the screw should not be tightened till afterwards. The tourniquet is occasionally applied during the inhalation in the hospital, in order to save time, and then I inform the patient of the nature of what is being done, that he may not be in dread of the premature use of the knife. It is a good plan to let the patient inhale in a comfortable posture, and then to draw him to the edge of the table, when this is required, just before the operation is commenced.

If two fluid drachms of chloroform be put into the inhaler that has been described, they will usually more than suffice to last to the end of the operation. The face-piece should be at first applied with the expiratory valve turned aside, and this valve should be gradually moved over the aperture, more or less quickly, according to the patient's power of inhaling the vapour, without coughing or complaining of its pungency. So long as he is conscious, his feelings should be attended to, and if nervous, he should be encouraged to persevere with the inhalation; but, when no longer conscious, his apparent dislike of the vapour must not prevent its continuance. The majority of patients become quietly insensible without offering any resistance; but, now and then, the patient, on entering the second degree of narcotism, feeling something unusual, and the purpose of it having escaped from his mind, tries to get rid of the apparatus, and it is necessary to hold his hands. Whilst any voluntary motion continues, either in the eyelids or any other part, all that is required is to go on giving the vapour steadily and gradually. It is seldom necessary to close the expiratory opening completely; it is usually sufficient if the valve cover three-fourths of it, and, if the patient breathe deeply, it should not be more than half covered. When voluntary motion is no longer apparent, in order to become informed respecting the state of the patient, the eyelid should be gently raised, touching its free border. If he look up, it is evident that the narcotism has not exceeded the second degree. If no voluntary motion be excited, the third degree is probably attained, and if the eye be found turned up, this is pretty certain. But, notwithstanding this, if involuntary winking be occasioned by touching the edge of the eyelid, it is necessary to continue the vapour a little longer before the operation is commenced. In doing so, however, if the narcotism have already reached the third degree, and there be no particular rigidity or struggling, the valve may be opened a little further, so as to give the vapour in a more diluted form, or the inhalation may be intermitted for two or three inspirations at a time. In this way, insensibility of the nerves is obtained, without increasing the narcotism of the nervous centres. As soon as the sensibility of the conjunctiva is abolished, or so far blunted that the free edge of the eyelid, or the eye itself, can be touched without causing decided winking, the operation may be commenced with confidence that there will be no pain, and no involun

interfere with the operation. When there is struggling, or great rigidity, in the third degree of narcotism, it is requisite to continue the vapour a little longer till it subside. If there be any approach to stertorous breathing, the inhalation should at once be suspended, as was stated in a former paper. Stertor, however, never begins till the patient is perfectly insensible. The time occupied in the inhalation is usually from two to three minutes. The operation having been commenced, the medical man having charge of the chloroform should watch the patient's countenance, and if there be any sign of returning sensibility, give a little more vapour during the short time occupied in removing the limb. After the amputation is completed, the vapour need not be repeated until there is decided evidence of sensation. When the arteries to be tied are not numerous, it is sometimes not necessary to repeat the inhalation. Generally, however, it is requisite to give a little chloroform at intervals, and if cold water have to be applied to stop the oozing of blood, or the flaps have to be united by sutures, it is advisable to keep the patient partially insensible till this is done.

[To be continued.]

TREATMENT OF FEVER DETERMINED BY SYMPTOMS.

When fever is prevalent, too great care cannot be exercised in ascertaining the actual meaning of every symptom; and this, as well on all other accounts, as for two reasons in connection with the present subject: for, on the one hand, to see fever that is not to be treated actively in every case of disease which may come under observation, would sorely tie our hands, and lead to very unfavourable results in practice; while, on the other, as it would be presuming too far to suppose that even with the highest degree of skill and attention a case of fever would never be overlooked, no step should be taken without the fullest consideration of what may be feared, as well as what is to be expected from it. The reparatory powers of nature, aided by rest and close attention, are rather to be trusted than any bold strokes, as they are called, calculated to stimulate or deplete, struck in uncertainty. To do nothing is indeed very easy, but it is often really the boldest practice, and its true indications the hardest to seize.—*Ormerod's Observations on Fever.*

MEDICAL GAZETTE.

FRIDAY, DECEMBER 15, 1848.

Few occurrences are calculated to display a greater degree of criminal ignorance, or a greater recklessness of human life, than that which has been recently recorded in the daily journals, of the loss of seventy lives on board of an Irish steamer. The vessel, it is stated, left Sligo on the afternoon of Friday, December 1st, and there were on board 150 emigrants, who were to be conveyed to Liverpool on their way to America. It appears that during the night there came on a heavy gale of wind; and, as it is alleged, in order to allow of the free working of the vessel, these unfortunate persons were crowded into the steerage cabin: the only aperture by which air could be supplied was closed, and a tarpaulin nailed over it, so as to prevent the possibility of any renewal of air. The cabin into which the emigrants were thus forcibly thrust, is stated to have been 18 feet in length, 12 in width, and about 7 in height, giving a total capacity of about 1512 cubic feet; a large portion of the air being, of course, displaced by the introduction of their bodies. As an adult of middle age consumes, or renders unfit for respiration, about a cubic foot of air per minute, it is easy to form an idea how long 50, 100, or 150 persons, would be likely to live in such an atmosphere. Under these circumstances, it is not surprising that seventy should have been found dead: the wonder is rather, that a single person was found living. It is highly probable, that had the steerage cabin been kept closed only a few minutes longer, all would have perished by the most horrible death to which a human being can be exposed namely, suffocation from confined air. It seems that on entering the cabin, a lighted candle was in two successive attempts extinguished by the mere foulness of the air.

We do not mean to contend that the captain of a steamer is expected to know exactly the quantity of air required for the support of human life; but the law will not excuse an individual, who, for his own convenience, nails another closely in a small box: if possessed of common sense, he must be aware that suffocation would be the infallible result of his act. The captain of the steamer appears to us to have placed himself in this position: he closely confined a large number of persons in a space in which there could be no renewal of air, and in which the quantity was insufficient for even one-tenth of those who were condemned to breathe it. This may have been ignorance, but it was unquestionably ignorance of the most culpable kind, and indicative of an utter recklessness of human life. It has been well remarked by a contemporary[*]—

> "We must here pause for a moment, and ask how could the mind of that man be constituted, who, knowing the number of deck passengers on board his ship, and being necessarily acquainted with the extent of the accommodation forward, could issue such an order? How can such a mandate be explained away? It may be accounted for, but never explained. There was no intention of deliberate murder, but there was indifference, there was incompetence, there was brutality. The sufferings of these poor people mattered but little to the crew, so as they could find room to work their ship without interruption; so with oaths and blows they drove below the unfortunate beings, so many of whom were never destined to see again the light of day. And now the story becomes unintelligible. We cannot, on the one hand, attribute to Captain Johnstone and his crew the deliberate intention of murder,

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[*] Times, Friday, December 8th.

but, on the other, is it possible to conceive upon any known principle of human action how a commanding officer in such a situation could issue an order that the only aperture by which air could enter into the fetid hole in which he had confined his passengers should be hermetically sealed? The companion was closed, a tarpaulin was nailed over it, and further, the entry was secured by ropes, so as to make egress almost impossible."

At the inquest subsequently held on the body of one of the victims, a verdict of manslaughter was properly returned against the captain and two of the officers.

A LETTER inserted in the present number* points out a very serious evil attendant on the prize and medal system, by which medical schools, in a state of decadence, attempt to attract pupils. Without giving any opinion on the case which has called forth this letter, we agree with the writer in thinking that much mischief is annually perpetrated by the maintenance of the practice of offering prizes and medals. While the evil part of the system is certain, the benefits arising from it are problematical. The prize does not act as a stimulus to the *whole* of the class; on the contrary, it becomes the object of an ambitious struggle to some five or six among the pupils,—prize-fighters, as they are technically called,—whose names, as men reading and working specially for it, are sufficient to deter others from entering into competition with them. When prizes are awarded for proficiency in particular branches of medicine, the effect must be to induce a man to work for that subject only, to the neglect of the other parts of his professional education. A gold medal for chemistry will probably fall to the lot of one who has seldom shewn himself as an observer of the medical and surgical practice of the hospital; and if he should survive the effects of over-application to one pursuit, he will find hereafter that the possession of this medal will be of no service to him in procuring practice, even although he may take pains to announce himself as a prize-man of his school in an advertising circular.

The present mode of distributing prizes, therefore, does not operate favourably, either for the pupils of the school generally, or for the successful candidates. It is a kind of scientific lottery which should be abolished, since the cost of gaining one of these baubles may be, either damaged health, or the neglect of sound professional knowledge, for a book-acquaintance with some one branch. These "medical sweeps" appear to be most numerous at those seats of learning which are the most deficient in pupils,—a circumstance which should excite suspicion as to the objects of their supporters.

THE state of health of the metropolitan districts is progressively improving. The total deaths were eight *below* the weekly autumnal average. The number of deaths from zymotic diseases, as a class, continues the same; but the deaths from special causes have decreased. The fatal cases of diarrhœa were below the autumnal average. The registered deaths from cholera were not more than 21, and those from scarlet fever and typhus have undergone a considerable decrease. In the provinces, the cases of cholera reported since our last, have been very few; but the accounts from Scotland are by no means satisfactory. The total cases and deaths up to the present time (Dec. 12th) are as follows:—

	Cases.	Deaths.
London . .	459	240
Provinces .	193	96
Scotland . .	1517	662
	2169	998

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* Page 1039.

The cholera has recently broken out with great severity at Dumfries. Up to the 11th inst. there had been no fewer than 219 cases, and 78 deaths.

Reviews.

Chemistry, as exemplifying the Wisdom and Beneficence of God. By George Fownes, F.R.S., Professor of Practical Chemistry in University College, London. 2nd edition, small 8vo. pp. 160. London: Churchill. 1848.

This is the second edition of an essay for which the managers of the Royal Institution awarded the Actonian prize of one hundred guineas, in April, 1844. Essays of this description, which are written for a specific object, and in which the author is tied down to a certain chain of argument, rarely get beyond a private circulation. It is therefore a creditable proof of the novelty and interest which Mr. Fownes has contrived to impart to his subject, to find that, within a very few years, there is a demand for a second edition. We have looked through the pages of this essay, and whether we regard the manner in which the theological argument is carried out, or the clear and easy style of the author, we have no hesitation in recommending it as a useful and instructive little volume.

On Bandaging and other operations of Minor Surgery. By F. W. Sargent, M.D. 8vo. pp. 379. Philadelphia: Lea and Blanchard. 1848.

The object of this treatise is to put the junior student of surgery in possession of the mode of performing the various manipulations required for the treatment of surgical injuries. A considerable space is devoted to the subject of bandaging, in reference to wounds, ulcers, and fractures; we have then a pretty full account of the methods of treating fractures and dislocations; and, under the head of "Minor Surgery," a description of the operations of bleeding general, and local; the modes of effecting counter-irritation; of arresting hæmorrhage; the closure of wounds, catheterism, &c.

From our examination of this work, the directions appear to be simple, and in strict accordance with good practice. The remarks on the methods of arresting hæmorrhage, are particularly deserving of attention. Dr. Sargent gives a short description of the uses of ether and chloroform in surgery, and his observations are marked by good sense, and an entire absence of prejudice either for or against the employment of these agents. We recommend this volume to those who are commencing the study of their profession, as apprentices, or dressers in hospitals and infirmaries. It must, however, be looked upon merely as a guide to practice, and as containing, under a form easily available for reference on an emergency, those plans of treating accidents, or injuries, which have been sanctioned by experience.

A Practical Treatise on the Use of the Microscope. By John Quekett, Assistant-Conservator of the Museum, and Demonstrator of Minute Anatomy at the Royal College of Surgeons of England. 8vo. pp. 464, with plates. London: Baillière. 1848.

This is the sixth volume of a most useful series of works now in course of publication by Mr. Baillière, under the name of Library of Illustrated Standard Scientific Works. A treatise on the practical use of the microscope, especially in its medical applications, has been long wanted; and we are glad to perceive, from the volume now before us, that this want has been at length supplied by one fully competent to the task. Mr. Quekett commences with a history of the microscope and its progressive improvement. He then describes the various forms of instruments which are now generally employed, with the application of the improved microscope to the purposes of scientific inquiry; and lastly, he gives us an account of the various plans of preparing, mounting, and examining animal, vegetable, and mineral substances, with a classification of specimens best adapted for selection. Those of our readers who are desirous of perfecting themselves in microscopical research, will find in Mr. Quekett's treatise an invaluable guide. The work is well printed, and is illustrated by nine engraved plates, and two hundred and forty-one wood engravings.

Proceedings of Societies.

ROYAL MEDICAL & CHIRURGICAL SOCIETY.

November 28th, 1848.

J. M. Arnott, Esq., F.R.S., President.

On the Causes of the Endemic Puerperal Fever of Vienna. By C. H. F. Routh, M.D., Lond.

[Communicated by Dr. E. Murphy.]

There are three lying-in departments in the General Hospital of Vienna. To one of these strangers are not admitted. Of the two others, to which only the author's remarks refer, one is destined for the instruction of medical men and midwives, the other for the instruction of midwives only. The average number of deliveries in each department is from 250 to 300 per month. The mortality in the division for midwives and medical men has generally been thirty per month, and has occasionally been seventy. In the division for midwives only, the number of deaths has generally been from seven to nine per month. The clinical instruction is conducted on precisely the same general plan in the two departments; but the medical men receive also practical instruction in a private course, in which the operations are performed on the dead body of some female, while the midwives receive this instruction by means of the leather phantom. The frightful mortality in the division to which medical men are admitted, became the subject of a government inquiry, and the number of students in attendance was reduced from forty to about thirty. The mortality, however, remained the same as before. On inquiry, it was found that in other countries, where there were two divisions in the lying-in hospitals, one for midwives, and another for medical men, the mortality was far greater in the latter. The author shews that this difference could not depend on the manipulations of male attendants being more rough than those of midwives, nor to the influence of contagion or infection. He adopts the explanation proposed by Dr. Semelweiss, the assistant-physician of that division of the Vienna Lying-in Hospital, in which the great mortality has occurred — namely, that the real cause of the mortality from puerperal fever there, was the "uncleanliness of medical men and students in attendance;" their hands being impregnated with cadaveric matter through dissecting, making autopsies, and performing obstetric operations on dead bodies. Dr. Semelweiss recommended all students attending his division of the Lying-in Hospital, not to handle the dead matter, or, if they did so, forbad them making any examination of the patients till the following day. And he directed every student to wash his hands in a solution of chlorine prior to, and after every examination made on the living subject. The result was, that the number of deaths was reduced from thirty per month to seven per month, the usual average mortality of the division for midwives only. The author makes some remarks on the modes in which the cadaveric matter may be introduced from the hand of the medical attendant into the system of the woman. He then describes the characters of the puerperal disease so fatal in the Vienna Hospital, with the view of demonstrating its resemblance to the effects of a poisoned dissection wound; and he concludes by recapitulating the inferences which he believes to be justified by the facts stated in his paper.

Dr. Webster regarded the paper as a very valuable one, but thought that the author had not attributed sufficient influence to the situation of Vienna, in the production of the large amount of mortality by puerperal fever in that city. It was well known that Vienna was the most unhealthy place in Europe. Fever of a low type was very prevalent there. The hospital was situated in a damp position, and was ill-ventilated and unclean. The students, also, were anything but cleanly. The mortality announced in the paper was truly frightful. The same objection as to situation also held good with respect to Strasburgh and Prague, in both which cities the hospitals were on the banks of a river.

Dr. E. Murphy said that the novel point in the paper was the fact established by the author, that puerperal fever was propagated by the students who had been recently examining dead bodies. The facts brought forward in the paper he (Dr. Murphy) thought proved that the above mode of contagion prevailed. In his own experience in the Dublin Lying-in Hospital, he had found attention to ventilation and cleanliness the best preventive of the disease. When Dr. Collins was appointed master of that institution, the puerperal fever was at its height. He had tried every means to eradicate it. The perseverance in improved ventilation, the use of chloroform, &c. succeeded; the disease gradually subsided, and for the last four years there had been no case of puerperal fever in that institution. He referred to the case of a German student, who was constantly at post-mortem examinations, both within and without the house. Puerperal fever seemed to attend him wherever he went; but, on his giving up his pursuit after dead bodies, the fever subsided.

The PRESIDENT inquired if it accorded with the experience of the accoucheurs present, that pupils from the dissecting-room gave puerperal fever to their lying-in patients more frequently than midwives? This appeal of the President was not responded to by a single accoucheur, and

Dr. GREGORY asked another question—Why puerperal fever had, within the last four or six weeks, been so prevalent in lying-in hospitals?

Dr. COPLAND said, that the facts stated in the paper were so convincing that we could scarcely doubt their accuracy. The mode of infection mentioned by the author was, however, only one of the modes in which puerperal fever was propagated. It was known that the disease might be communicated also by the hands of the accoucheur who had attended a case of the disease. The paper had proved that it might be communicated by the hands used in post-mortem examinations: but the disease frequently broke out without any chance of its origin being traced to this cause. In most cases, in the lying-in hospitals, the matrons, or midwives, who did not examine bodies, delivered the patients. He thought that something was due to the frequency with which examinations during labour were made, and also to the atmosphere of lying-in establishments. This was impure, from the effluvia resulting from the lochial and other discharges of the women. In this way the disease was propagated by napkins, &c.

Mr. MOORE could testify to the accuracy of the author's description of the cleanliness of the hospitals in Vienna. The amount of post-mortem examination going on in that establishment was remarkaole. He had seen as many as fifteen bodies lying for examination in a morning. The students and professors had their hands immersed in these for hours together. The position of Vienna was such as not to surprise any one that puerperal and typhus fevers were prevalent there. It was in a flat, marshy district, and was frequently visited by storms. The mortality of puerperal fever in this city did not exceed that from typhus.

Mr. MARSHALL said, that bathing the hands in chlorine, after post-mortem examinations, did not always act as a preventive to puerperal fever. He had been examining a body. He was called from thence to a labour, but took the precaution of changing all his clothes, and washing his hands in solution of chloride of lime; his patient, however, was seized with puerperal fever, and the next following three suffered from the same malady.

On the Minute Anatomy of the Lung of the Bird, considered chiefly in relation to the structures with which the air is in contact whilst traversing the ultimate subdivisions of the air-passages.

By G. RAINEY, Esq., M.R.C.S., Demonstrator of Anatomy at St. Thomas's Hospital. [Presented by Dr. TODD.]

The author, after having made some prefatory observations respecting the non-existence of the mucous membrane and ciliated epithelium in the air-cells of the human lungs, as inferred by Dr. Addison and others from pathological considerations, and as shown by himself in a previous communication to the Society, refers to the minute structure of the lung of the bird and several mammals in confirmation of this fact. The trachea in birds, in addition to the structures composing this part in the mammal, is almost entirely surrounded by a layer of muscular fibres of the striped variety. The calibre of the bronchial tubes is more uniform than in mammals, and the inter-cellular passages, which are very minute, are given off at right angles with their axis instead of being continued from their extremities. These peculiarities, the author observes, are rendered necessary in birds by the additional function which these tubes have to perform in this class of animals. The bronchial tubes in birds are lined by a distinct fibrous membrane, which at those parts of the tube from which the inter-cellular passages proceed, is distinctly perforated, so that the bronchial membrane, as in the human lung, does not extend farther than the bronchial tubes. The inter-cellular passages, which at their commencement are but small, soon lose themselves among the air-cells. The air-cells surround the bronchial tubes, and fill up the interval between them and the spaces which separate the lobules, the inter-lobular fissures appearing in the uninjected lung to be merely the cellular walls of these tubes. The author observes that he has called these air-cells, because physiologically they may be considered as such. The capillaries (he goes on to notice) form, by their frequent anastomoses upon different planes, a kind of dense solid plexus, with no other separations between the vessels for the reception of the inspired air than the open areolæ or meshes of the plexus, which communicate freely through the whole of a lobule. The author next observes that the bronchial tubes have a very distinct lining of ciliated epithelium, which ceases where the bronchial membrane gives off the inter-cellular passages. To render this fact more striking, he gives the measurement of epithelial cells, which were taken from the bronchial tubes of a pigeon, which are stated to be $\frac{1}{800}$th of an inch in length, and about $\frac{1}{3000}$th of an inch in breadth, showing that the ultimate subdivisions of the air-passages in the bird are several times smaller than the individual particles of epithelium which are, by some physiologists, considered to line them. Although, he observes, the ultimate subdivisions of the air-passages in birds are so extremely minute, yet it is in them we see a respiratory organ of the greatest efficiency, and in its greatest state of simplicity, the inspired air being admitted directly in contact with the pulmonary capillaries, and all around their entire circumference. The author then remarks, that however the organs of respiration in the different classes of animals may differ in their anatomical characters, the principle upon which they act must be the same; and therefore, that if the simple exposure of the blood in the capillaries to the action of the air be all that is required for the aeration of the blood in the bird, in which this function is performed with the greatest activity, it ought to be sufficient in those animals in which it is performed with less energy. The correctness of this inference is then shown by a comparison of the structure of the lungs of several mammals with those of the bird, by which it is apparent that a gradually increasing resemblance in structure to the lung of the bird exists in different animals in proportion as the activity of their respiration approaches to that of birds. This resemblance is marked by the minuteness of the air-cells, the absence of all regularity in their arrangement, and the partial deficiency of the membrane which connects the pulmonary capillaries. The air-cells in many mammals are stated to be much smaller than the individual particles of ciliated epithelium lining their bronchial tubes. In confirmation of this fact, the author refers to the lung of the kangaroo, hare, rabbit, and dog, also the rat and the mouse. From a review of these facts and considerations, the author concludes that the ciliated epithelium can have nothing to do with the immediate function of the lung in the process of aeration of the blood, and that its office is probably only mechanical, the function of aeration requiring for its performance only the pulmonary capillaries, with the blood within them, as they exist in the simple, though the most perfect and efficient respiratory apparatus of the bird.

Case of Cysticercus Cellulosa in the Anterior Chamber of the Human Eye. By Wm. Mackenzie, M.D., Surgeon-Oculist in Ordinary, in Scotland, to the Queen.

E. G., aged 16, applied at the Glasgow Eye Infirmary, in September 1848, on account of obscurity of vision in the left eye. On examination, a spherical body, about one-eighth of an inch in diameter, was discovered lying close in front of the pupil, in the anterior chamber, and this proved, on closer inspection, to be a cysticercus cellulosa. The patient stated, that in June the left eye had been the subject of acute inflammation, which occurred immediately before the appearance of the hydatid. Objects placed in a direct line before the eye or below it, she saw very indistinctly, but in a moderate light the expansion of the pupil left one-third, at its upper part, unobscured. The position of the hydatid varied to a certain extent, and was an object of curiosity to many. Its opaque body, its tail, vesicle, and rostellum, together with its four lateral suckers, could be distinctly made out, and it was observed to be most lively in the morning and when the patient was warm. She was quite unconscious of the motions of the hydatid, and did not appear to suffer pain from its presence. On October 14th, the foreign body was removed by the following operation:—The patient was placed on her back, and the eyelids being retracted, a puncture was made with Beer's pyramidal knife, at the temporal edge of the cornea, to the extent of $\frac{3}{20}$th of an inch. Schlagintweit's hook was then introduced, and the hydatid was seized and easily withdrawn. The iris protruded a little through the wound, but was readily reduced by friction, through the medium of the upper eyelid. Not a single bad symptom followed, and the patient was dismissed quite well in a week. The hydatid was placed in tepid water, and continued to move for fully forty minutes after its removal from the eye. Viewed through a compound microscope, the transparent corona of claws surrounding the rostellum were distinctly seen, as were the corpuscles scattered over its neck, and the four lateral suckers. The author states it as his opinion that the attack of ophthalmia in June, immediately preceding the appearance of the hydatid, was owing to the development of its ovum in one of the blood-vessels of the iris or choroid, and that the inflammation ceased suddenly as soon as the hydatid dropped into the anterior chamber, where it lived at its ease, and throve on the aqueous humour. He then proceeded to make some remarks on other cases recorded, and to state his reasons for not trying any application to the eye with a view of killing the hydatid, which he considered likely to irritate the organ; and even if effective, an exciting cause of inflammation would still be left. He did not apply belladonna, fearing that the cysticercus, as occurred in Neumann's case, might fall into the pupil and irritate the iris. A farther delay in operating he considered unjustifiable, on account of the risk which it involved of inflammation being excited and the eye being sacrificed.

In our report of Mr. Acton's paper, read at the last meeting of the Medico-Chirurgical Society, we stated that "the solution of gun-cotton, when dry, corrugates the skin too much to be available for the purposes required." We have been requested to add the following paragraph from the author's paper, in further explanation of his views regarding the inapplicability of the preparation in question:—"If the skin be stretched, this thin film (of the dried solution) becomes ruptured in various places, and the surface of the healthy cuticle beneath is chapped, and becomes excessively painful, particularly if ether be applied to remove the hardened pellicle."

PATHOLOGICAL SOCIETY OF LONDON.

Monday, December 4, 1848.

R. Partridge, Esq., in the Chair.

Mr. Toynbee exhibited a specimen of

Articulation of the right Jugular Process of the Occipital Bone with the Transverse Process of the Atlas,

from a man, æt. 21, who died of apoplexy, and in whom one of the vertebral arteries took its origin from the arch of the aorta.

The right jugular process measured three-quarters of an inch in length, was nearly half an inch thick at its upper part, and about a quarter of an inch at its lower extremity, on the anterier surface of which was an articular surface. This articular surface, of the shape of a cone, the apex being directed upwards, looked obliquely downwards and forwards, and was slightly concave. Articulating with this surface, was another situated on the posterior and superior part of the transverse process of the atlas, and which was slightly convex, and received into the concavity in the jugular process of the occipital bone, to which in the recent state it was firmly attached by a capsular ligament. This articulation must have interfered with the motions of the head during life; the articular surface on the right condyloid process was smaller, and did not extend so far back as that on the left side.

Mr. Haynes Walton exhibited a specimen of

Fungus Hæmatodes of the left Testis.

The case occurred in the practice of Mr. Garlike, of Rickmansworth. The patient, æt. 20, contracted gonorrhœa in May of the present year; the discharge ceased in two or three weeks, without any treatment. In the latter part of June, he observed slight enlargement of the left testis, unattended with pain.

It gradually increased, and was oval, not pyriform, and heavier than hydrocele, and not transparent and nodulated. His health was remarkably good. The treatment adopted was that usually resorted to in chronic enlargement of the gland. On the 29th September, Mr. Garlike introduced a small trocar; a few drops of blood only escaped. Some weeks after this, it was suspected that the disease was malignant, and Mr. Walton confirmed that opinion. There were now the well-marked features of fungus hæmatodes; the spermatic cord, however, was natural. There was slight occasional dull pain. There was no evidence of any secondary affection. The disease progressed in the usual manner; the scrotum became adherent at two points, one of which ultimately opened, and considerable bleeding ensued: this occurred on the 14th of November. Three days after this, Mr. Walton assisted Mr. Garlike in the removal of the tumor, which weighed a pound and a quarter. There was not the slightest trace of testis. The same appearance was observed throughout the entire section—viz. that of medullary matter, and coagulated blood, either in a softened state, or flocculent, deposited in the meshes of a sponge-like tissue.

Dr. Jenner exhibited a specimen of

Indented Fracture of the frontal bone of a girl, æt. 10, who died of typhus fever,

having seven months before her death received a blow from a stone, by which she was stunned, and the scalp cut. A piece of plaster only was applied, and in a few hours she appeared as well as usual, and never after experienced any symptoms referable to the injury. There was depression of the frontal bone on the left side, just above the temporal fossa. The depressed portion, which projected about a quarter of an inch into the cranial cavity, was one inch in length, and three-quarters in breadth. There was thickening of the dura mater, and well-marked depression of the convolutions of the brain corresponding to the injured bone.

The Heart of a youth, æt. 18, who died of typhoid fever, and in which there was an oblique opening, about the size of a crow-quill, between the right and left ventricles, through the fixed curtain of the tricuspid valve.

The orifice on the left side was situated a little below the aortic valves, at the bottom of a fossa about four lines in diameter. The edges of the aperture projected slightly on the left side, and were indurated, thick, white, and opaque. That the opening was not the result of ulceration, was proved by holding the septum ventriculorum up to the light, when it was seen that at the bottom of the small fossa, the ventricles were at two or three places separated only by the two layers of lining membrane, the fibrous tissue being absent at these points. There was during life a loud blowing murmur with the first sound at the base of the heart, heard at the top of the sternum, and in the carotids.

The Heart of a man, æt. 70, at the apex of the left ventricle of which was an aneurismal pouch, capable of containing a filbert.

It did not project beyond the external wall of the ventricle, which was much thickened by a deposit of fat over its whole surface. There was no muscular substance over the extremity of the aneurismal sac. A few old slight adhesions bound the apex of the ventricle loosely to the free pericardium. The sac was lined by a dense, tough, smooth, shining membrane, of a pale ash-grey colour, and was strengthened externally by some dense fibrous and elastic tissue: some muscular tissue covered its base, and over the whole lay a considerable quantity of fat. A thin layer of fibrin coated the inner surface of the lining membrane of the sac. It contained a clot, evidently old, from its dark colour, rough surface, density, and firmness. The mouth of the sac was indurated, opaque, and white; there was a good deal of atheromatous deposit (oil globules, and plates of cholesterine) beneath the lining membrane of the aorta, and also in the substance of the mitral and aortic valves, but not enough to seriously impair their functions. There was no trace of inflammation in any part of the heart. The close resemblance between the white opaque entrance to the sac, and the indurated orifice communicating between the right and left ventricles of the heart, just exhibited, was obvious.

The inner surface of the heart presented that yellowish, streaky appearance indicative of fatty degeneration. Examined by the microscope, fat was found more or less abundantly within the sarcolema. The heart was hypertrophied.

The man died from coma, consequent on suppression of urine. About two years before his death, he was suddenly seized, while eating his dinner, with severe dyspnœa, coldness of the surface, sense of faintness, and thought himself dying; from this he recovered in about half an hour. He had a similar attack the next day. His pulse, up to the time of his death, and for at least some months before the above attacks, was irregular and intermitting. He was a man of intemperate and indolent habits. He was seen by Dr. Jenner for the first time, a few hours only before his death. One of the kidneys from this man was also exhibited. It was atrophied; its costical substance was thickly studded with minute cysts, filled with transparent fluid. The tubes were quite pervious. The epithelium scales appeared healthy, and firmly attached to the basement membrane.

Dr. C. H. Jones exhibited a specimen of *Black deposit in the lungs, from a man, æt. 21, worker in a gunpowder manufactory, who died from asphyxia, resulting from destruction of the transverse ligament by caries of the cervical vertebræ.*

At the post-mortem examination the heart was found healthy; the lungs were full of black matter, not deposited, as is usually the case, beneath the pleura, but in numerous patches throughout the pulmonary tissue, and which were most abundant in the lower lobe. The apex of the left lung contained numerous small tubercles, and one cavity about the size of a small cherry, which seemed to be that of a dilated bronchus; around this the tissue was consolidated for some extent.

Under the microscope the black matter wat found to occupy the cavities of the air-cells; it was not contained in nucleated particles, but was quite free, and apparently in the same state as when inhaled. A certain amount of granular matter, with imperfect cellular form, was mixed with it, but there were no exudation corpuscles, or traces of inflammation, to be seen in the vicinity.

Also read the following remarks on

The Nutmeg condition of the Liver.

This condition is extremely common, and is well known to depend principally on partial congestion of the parenchyma of the lobules, the hepatic venous congestion of Mr. Kiernan in its second degree. No particular notice is taken in this account of the secreting structure, it is only said to be generally in a state of biliary congestion: in many instances this sufficiently expresses the deviations that have occurred from the natural condition, but there are cases, not unfrequently occurring, when the aspect alluded to is extremely marked; and when no other remarkable alteration can be perceived by the naked eye, yet in which the secreting structure is most gravely and extensively deteriorated. Of these I now proceed to give a short account:—

The form of the organ in the condition I refer to is scarcely at all altered: its edges are not rounded, nor its surface puckered; or, if these changes have occurred, they are but very slight: its capsule is often smooth, and free from false membrane, or other traces of chronic inflammation: its consistence, however, is greatly increased: it is much less fragile, and tears much less easily than natural. On the surface of a section, deep red patches of sanguine congestion are observed, coalescing irregularly with each other, and leaving in their interspaces pale-greyish, or slightly yellow spots; the relative size of the congested and non-congested patches may vary somewhat, but the boundary between them is extremely well defined, the deep tint of red, ceasing abruptly and not shading off into the pale hue of the circumscribed grey spots. Under the microscope it is seen that the cells in the central parts of the lobules, which are the seat of congestion, are remarkably altered: they are gorged with biliary matter, and appear as round or oval masses of dark yellow or reddish substance: they are much less numerous than in the healthy state, and no longer lie closely in contact. This condition of the secreting structure is co-extensive with the congestion of blood: beyond this, towards the exterior of the lobules, a very different condition is found to exist: here the cells are no longer distinct from biliary engorgement; on the contrary, they are pale, stunted, starved, and often scarcely discernible, or appearing as mere débris in the midst of an amorpho-granular basis substance. In some cases the fissures are greatly enlarged: instead of having a diameter of [illegible] inch, or rather less, I have found several to measure as much as 1-54, or even 1-44 inch; this increase in width taking place, of course, at the expense of the lobules, which thus become materially diminished. The investing membrane of the lobules is very greatly increased, and becomes much more condensed, and more distinctly fibrous: it has appeared to me in some instances to be continuous with the amorpho-granular substance which infiltrates the pale non-congested portion of the lobules. It also seems to me very probable that these cases, where the fissures become so greatly enlarged, at the expense of the parenchyma, are but further stages of the degenerating process above described; for, as the exterior part of the lobules becomes hypertrophied, from the deposition of an amorpho-granular basis substance, and loses its natural structure, it will tend to become blended with the fibrous tissue of the continually enlarging fissure. The foramina, which are commonly so evident in their sections, existing at the interlobular spaces, are no longer apparent, the pressure of the newly-formed fibrous tissue having obliterated the corresponding branches of the portal vein.

The essential circumstance in the changes now described seems to be the effusion of an unhealthy plasma, not only in the canals and fissures, but in the external part of the lobules, which passes in a solid form, and constitutes in the latter situation an amorpho-granular basis substance,* compressing the capillaries, and stunting the secreting cells. At the same time, the thickened fibrous tissue of the canals and fissures still further obstructs the arrival of blood in the lobules, which thus are at last only supplied by the reflux of blood into the ultimate twigs of the hepatic vein, and the capillaries which immediately surround them; and thus the marked congestion of the interior of the lobules is accounted for, and the peculiar biliary engorgement of the cells in this situation.

In two instances that I observed, where the liver had undergone this change, there was contraction of the mitral orifice of the heart, by chronic thickening of the tissue of the valve and cordæ tendineæ. This confirms the view I am inclined to take of the pathological nature of this alteration—viz. that it is a fibrous degeneration of the glandular structure, from an unhealthy state of the plasma supplied to it from the blood, and not an inflammatory action producing effusion of lymph. So far as I have observed, this degenerating process does not terminate in the contracted "hob-nail" condition which is the result of cirrhosis; nor have I ever seen in such livers so serious and considerable a lesion of the secreting glandular cells.

Not the least important circumstance to be remarked in the above description, is the comparatively slight alteration from the healthy state of so large and important an organ which is ascertainable by the naked eye. In one instance I recollect it was merely noted at the post-mortem examination that the liver was in a "nutmeg" state, and no suspicion was entertained of what the microscope readily demonstrated—that probably one half of the whole secreting structure was atrophied and changed into fibrous tissue. This is easily accounted for, since the colour of the uncongested parenchyma in its natural state, and that of newly-formed fibrous tissue, cannot be easily distinguished by the unaided eye.

Dr. Bence Jones exhibited a

Tumor in the right side of the Middle Lobe of the Cerebrum,

from an intemperate waiter, æt. 62, who had had no material ailment up to the middle of last May, when he was seized with an epileptic attack, followed by delirium tremens, from which he quickly recovered. A second attack came on in June, and from this time the mind gradually lost its power. Three weeks before death he observed that one morning he was unable to button his trowsers. Complete paralysis of the left arm gradually ensued, and the voice became reduced to a whisper. Slight symptoms of inflammation of the brain came on a week before death, and he died from coma of two days' duration on the 30th of November.

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* It may, perhaps, be that the deposition of the amorpho-granular basis, and the degeneration of the cells, are but coincident results of the obstruction to the passage of the blood through the portal veins.

The aspect of the tumor resembled that of the hæmatoid variety of encephaloid: it consisted of an aggregation of very delicate and feebly-formed celloid particles, not resembling true nuclei and nucleated cells, but vesicles with faintly granular or homogeneous contents: they varied in size from about the diameter of a blood-globule to that of an hepatic cell. In many of the corpuscles there were a few oily-looking molecules or granules: these generally constituted but a small part of the contents, except in some large vesicles, which were more or less completely filled with them, and had very much the appearance of exudation corpuscles. These large cells in some parts lay very thickly together, forming opaque patches. The tumor consisted almost entirely of the various celloid particles; a small quantity of granular blastema appeared to unite them together, but there was no trace of stromal substance; a few, however, of the corpuscles were seen elongating themselves into short fibres. Vessels of rather large size, and with delicate walls, ramified pretty numerously throughout the mass, and were often distended with red blood.

LIVERPOOL MEDICAL AND PATHOLOGICAL SOCIETY.

Employment of Nux Vomica in the Diarrhœa of Exhaustion.

DR. NEVINS mentioned the benefit derived from the employment of nux vomica in the treatment of the diarrhœa from exhaustion, chiefly observed in pauper patients, and especially children. In these cases he had repeatedly found no benefit from astringents and ordinary tonics, but the patients had rapidly improved under the use of the following prescription:—Alcoholic Extract of Nux Vomica (not officinal, but prepared by most wholesale druggists), gr. ss.; Rhubarb, gr. ss.; Saccharated Carbonate of Iron, gr. j.; Blue Pill, gr. ss.; Opium, gr. ⅛, made into a pill, and taken three times daily. In many cases he omitted the opium altogether.

He attributed the benefit to the influence of the nux vomica, which, by stimulating the nervous energy of the bowels, enabled the lacteals to absorb the nutriment from the food, and the large intestines to retain the fæces; whilst, at the same time, the iron acted as a permanent tonic; and the very small doses of rhubarb and blue pill improved the character of the secretions, without acting as an aperient. Improvement was generally perceptible in a few days, and he seldom had occasion to continue the prescription more than a fortnight.

MR. TAYLOR, of the Liverpool workhouse, confirmed this account from his experience of many cases in the same class of patients in whom he had tried it, on Dr. Nevins's recommendation.

Intra-uterine Small-pox.

DR. WATSON brought forward the case of a lady who fell into labour just as a variolous eruption appeared on her skin. The child was born alive, with some spots upon the scalp, which soon showed the central depression of the variolous pock. Sir Arnold Knight instanced another case of a lady who laboured under distinctly-marked, almost confluent, small-pox at the period of her confinement: the child was born dead, and covered from head to foot with distinct variolous eruption. The lady recoved favourably.

(A case occurred to the late Mr. Wildsmith, of Leeds, in which the patient had confluent small-pox, and the child was born alive, and lived about fifteen minutes; but there is no report whether it had any eruption or not. The only importance of this case is in reference to the medico-legal question of the viability of children born when the mother is labouring under small-pox.—J. B. N. Sec.)

Perforation of the Stomach without Constitutional Symptoms.

DR. BURGESS showed the stomach of a woman, aged 40, in which a perforation had occurred without any symptoms prior to death. She was habitually delicate, but went to bed in her usual health on Monday night. She was found insensible in the morning, with stertorous breathing and dilated pupil, from which state she did not recover, but died on the following Saturday morning. There was some slight yellowness of the skin, with extraordinary abdominal pulsation, but no other abdominal symptoms.

Post-mortem (*next day*).—No clot or effusion in the brain, which was firm and healthy; no unusual vascularity or opacity of the membranes; kidneys slightly granular; urine not examined. In the smaller curvature of the stomach was a hole, about four lines in diameter, passing through all the tunics, and mucous membrane, being removed to about twice the extent of the serous: edges smooth and even. The stomach contained nearly a pint of fluid, resembling coffee grounds, none of which had escaped into the abdomen, the perforation being *above* the fluid. There was no trace of peritoneal inflammation; the mucous membrane of the stomach was soft, pulpy, and slightly injected.

DR. NOTTINGHAM suggested that the condition of the brain might have led to the perforation, by the gastric juice, before death; whilst, at the same time, it prevented the development of inflammation, and the usual symptoms of inflammation.

Dr. IMLACK thought the absence of a ragged edge precluded the idea of its being a mere case of erosion by the gastric juice; and to show that perforation might occur, and speedily produced death, without abdominal symptoms, related the case of a young woman, very subject to pyrosis, which was always relieved by bismuth. One evening she had sudden pain in the body, which was relieved by brandy and water, and she went to bed. Her fellow-servant slept in the same bed, but was not disturbed by her during the night. In the morning she was found in the same position as when she lay down, but was dead before 6 A.M.

The stomach was found scirrhous, with a perforation about the size of the one before the Meeting; all the contents of the stomach had escaped unaltered into the abdomen, in which was copious effusion.

Mr. HIGGINSON related the case of a man dying of phthisis, who was found comatose one morning, and died. A small tubercular perforation was found in the bowels, and *very fœtid* foul matter had escaped into the abdomen. He remarked that the injection of sulphuretted hydrogen into the serous cavities caused death with these symptoms, and attributed the coma and death to this cause.

Mr. BURGESS replied, that in his case there was no offensive smell, and, therefore, the absence of abdominal symptoms, and the coma, could not be due to the cause just mentioned.

ALLEGED NON-REPRODUCTION OF THE TEETH.

THE teeth are said to possess in themselves no power of reproduction by which an injury can be repaired. This is not strictly true. The injury to which, in a state of nature and health, they are most liable, is wearing away of the masticating surface from use. The worn surface certainly is not renewed, but the teeth increase in density, and the pulp-cavity diminishes in size by the formation of dentine, so that the actual amount of dentine is not diminished, while the density is increased. In each of these actions we may recognise a form of renewal which in some degree compensates for the loss of abrasion. If the whole act of mastication is from any cause thrown upon two or three teeth, then these naturally, by the excessive use, wear away, till at last the whole crown is exhausted. Then, again, they make an effort to resist the inroad of caries, as will be shown when we come to treat of that destructive disease.—*Tomes's Dental Physiology and Surgery.*

Correspondence.

ARSENIC IN AGRICULTURE. POISONING BY ARSENIC. CHOLERA. THE GAME LAWS.*

SIR,—In these days of alarm respecting cholera, any facts suggesting an occasional and hitherto unsuspected source of gastric irritation, cannot fail to prove interesting to the medical practitioner; and as the circumstances I am about to communicate have an important bearing, not only upon the sanatory condition of our population, but upon the whole question of poisoning by arsenic, I need make no apology for laying them at once before the profession.

For some months past, in certain parts of Hampshire, partridges have been found dead in the fields, presenting a very remarkable appearance. Instead of lying prostrate on their side, as is usually the case with dead birds, they have been found sitting with their heads erect, and their eyes open, presenting all the semblance of life. This peculiarity, which for some time had attracted considerable attention among sportsmen in the neighbourhood, led to no practical result, until about ten days ago, when a covey of ten birds having been found nestled together in this condition, two of the birds, together with the seeds taken from the crops of the remaining eight, were sent up to London for examination. I was requested to undertake the investigation, and the result of my experiments I will now briefly detail.

I first examined the seed taken from the crops of the birds, and detected, as I had anticipated, a large quantity of arsenic. I will not take up your valuable space by detailing the various steps of my analysis: suffice it to say, that by Reinsch's process I speedily obtained a thick incrustation of metallic arsenic; that I then applied the reduction test, and subsequently Marsh's test, and the tests of the ammonio-nitrate of silver and the ammonio-sulphate of copper, each of which gave its characteristic result.

Having thus ascertained the presence of arsenic in the food of the partridges, I proceeded to examine the birds themselves. They were plump and in good condition, but the œsophagus was in both cases highly inflamed throughout. The intestines were not inflamed, and presented no trace of ulceration, but they were remarkably empty and clear, almost as if they had been washed with water. May not this have been the result of diarrhœa?

I now, at the suggestion of my friend Mr.

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* This letter reached us last week; but want of space rendered it necessary to postpone its insertion.

Stone, proceeded to ascertain whether the flesh of birds so poisoned might not itself prove poisonous when eaten; and with this view I carefully cut the flesh off the breast and legs of one of the birds, and gave it, together with the liver, to a fine healthy cat. She ate it with avidity, but in about half an hour she began to vomit, and vomited almost incessantly for nearly twelve hours, throughout the whole of which period she evidently suffered excessive pain. After this nothing could induce her to eat any more partridge. I kept her without food for twenty-four hours, but in vain: she resolutely refused to touch an atom more of the bird. This being the case, I gave her some beef and some milk, which she eagerly swallowed, proving beyond doubt that her instinct, and not her want of appetite, had induced her to forego the dainty meal which had just been offered her.

I now felt satisfied, from my observation of the symptoms induced in the cat, borne out as they were by many facts we are acquainted with respecting the action of poisons, that the arsenic which the partridges had swallowed had been absorbed in sufficient quantity into the system to render the flesh of the birds poisonous, and to produce poisonous effects in any one partaking of it. However, I was anxious to leave nothing to hypothesis, and as the cat had so soon rejected, by vomiting, the greater part of the bird she had eaten, and pertinaciously refused to renew the experiment by again partaking of the poisoned food, I was obliged to have recourse to chemical analysis, with the view of ascertaining with certainty the existence or non-existence of arsenic in the flesh itself. I therefore cut the flesh off one side of the breast of the other partridge, and after about an hour's boiling, I obtained, by Reinsch's process, a thin incrustation of metallic arsenic; thus demonstrating beyond question what the previous experiments had left little room for doubting.

I was now anxious to ascertain the source of the poison; and a very little inquiry served to satisfy me on this point. I will not stop to go into many details, which, though in themselves exceedingly interesting, have no direct bearing upon the question at issue. I will simply mention the leading facts—viz. that in Hampshire, Lincolnshire, and many other parts of the country, the farmers are now in the habit of steeping their wheat in a strong solution of arsenic, previous to sowing it, with the view of preventing the ravages of the wire worm on the seed, and of the smut on the plant when grown; that this process is found to be universally successful, and is therefore daily becoming more and more generally adopted; that even now, many hundredweights of arsenic are yearly sold to agriculturists for this express purpose; that although the seed is poisonous when sown, its fruit is in no degree affected by the poison; that wherever this plan has been extensively carried out, pheasants* and partridges have been poisoned by eating the seed, and the partridges have been almost universally found sitting in the position I have already described; and lastly, that the men employed in sowing this poisoned seed not unfrequently present the earlier symptoms which occur in mild cases of poisoning by arsenic. This last fact I give on the authority of Dr. Heale, who, up to the last two or three years, practised at Staines, and has repeatedly had men under his care suffering from symptoms due to this cause.

Now the facts just enumerated suggest several most important points for consideration. It is notorious that many of the dealers in game are supplied through the agency of poachers or others who have a direct pecuniary interest in supplying them with the largest possible number of birds. It is certain, moreover, that if men of this sort were to find a covey of partridges in a field, dead, but fresh and in good condition, they would not hesitate to send them with the remainder of their booty to the poulterer, who would as certainly, without suspicion, sell them to his customers. And after the experiments above detailed, there are no reasonable grounds for doubting that these birds, when eaten, would produce disagreeable and injurious, not to say poisonous, effects on those who partake of them. It is obvious, therefore, that in all cases of supposed cholera, or of suspicious bellyache, occurring at this season of the year, we shall do well to make particular inquiry as to whether our patient has recently partaken of pheasants or partridges purchased at a poulterer's; and it is further manifest, that in all cases of poisoning, or suspected poisoning, by arsenic, the fact of the persons having lately eaten of partridges and pheasants, must form an important element in the inquiry, and must tend to cast a suspicion on the evidence adduced to prove a criminal intent in the administration of the poison; so that, in a medico-legal point of view, the question is one of the gravest import.

2ndly. If it should prove, on further inquiry, that the practice of steeping seed wheat in arsenic is even indirectly productive of injurious effects on our population, it may become, in these days of sanatory reform, a matter for the anxious consideration of the legislature, whether they should not adopt some measures to prevent the continuance of such a custom.

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* In a review of Dr. Taylor's work on Poisons, in the last October volume of the British and Foreign Medico-Chirurgical Review, the reviewer states, that "in the Spring of 1846, a great number of pheasants having been found dead in their preserve, their crops were removed and sent to us for analysis, and with these some young wheat (about six inches high) which had been grown from poisoned grain, and of which it was suspected the birds had fed. The earth about the roots of the plants yielded distinct traces of arsenic, but the leaves were perfectly free from it."

3rdly. As in the event of a practice so destructive of game becoming universal, pheasants and partridges, in their wild state at least, must at no distant day become extinct in this country, it is a question whether landlords may not henceforth be induced to insert a clause in their lease, prohibiting the use of arsenic on their farms; while, on the other hand, it may be a question with those who are already weary of the protracted debates on the game laws, whether they should not allow them to die a natural death by the gradual but inevitable destruction of the game which it is the object of these laws to preserve.

I am, sir, your obedient servant,

Henry Wm. Fuller,
Assistant Physician to, and Lecturer on Medical Jurisprudence at, St. George's Hospital.

45, Half Moon Street, Piccadilly,
December 5, 1848.

A CASE OF INFLAMMATION OF THE TRACHEA AND LARYNX.

Sir,—In a late number of this journal, an interesting and instructive "Case of Disease of the Larynx" is reported by Mr. H. Smith; and having in my note-book the particulars of one somewhat similar, I forward them for publication.

S. B., aged 32, whose occupation is a coachman, and habits temperate, came to the residence of Mr. Thomas Barrett, Bath, on the morning of Sept. 13, 1848, with soreness of his throat, inability to bend his head towards the left shoulder from the stiffness of his neck; suffered pain over the left side of the chest, and in the course of the sternum. He bore a gloomy, anxious, and flushed aspect, appearing languid in body; had a sticky sensation in his throat; frequently effecting acts of deglutition; uvula was loose, and hung on the back of his tongue; the fauces and soft palate had a similar appearance; there was no visible redness, but a limpid secretion over the parts; tongue foul; pulse quick and hard. I furnished him with a saline mixture with antimony, persuading him to stay from his employment. However, he listened not to this, but drove his horses during the day as he was wont to do; therefore I was not much astonished to receive the message "that he was almost dying of suffocation," about twelve hours from his visit in the morning. Mr. Barrett being from home, I went to the patient in his stead. I heard a noise, informing me, ere I entered his apartment, of what had supervened; it was shrill and harsh. He was in a paroxysm of suffering, sitting up in the bed, gasping deeply for breath; spoke with difficulty, causing pain in those parts then exerted. He pointed to the throat as the seat of his chief uneasiness, which was externally burning hot; tongue covered with a thick yellowish-white fur,—easily protruded; cheeks red, and the whole face bedewed with perspiration, his linen being wetted with it. The passing of a finger into his fauces aggravated his feelings; inspiration is performed with difficulty and pain, which he does slowly and cautiously; expiration is no source of discomfort; pulse is frequent, hard, and full, warranting venesection. I sent him five grains of calomel, to be smeared on the tongue in butter. Continue the mixture, the dose of antimony being increased. A blister to the top of the sternum. In an hour I saw him, in company with Mr. Barrett, and the attempt to drink the medicine was immediately followed by a choking; bowels constipated; thirst intense, although he dares not drink to appease it; mental faculties undisturbed. A repetition of the calomel was ordered, adding to it one-sixth of a grain of tartar emetic, leaving off the mixture. Twelve ounces of blood were abstracted without any approach to syncope.

Sept. 14th, 9 A.M.—Mr. Barrett visited him, and reported to me that he was worse. Another dose of calomel was exhibited, and blood drawn to the same extent. In three hours he was seen by me. The clot of the blood presented no inflammatory sign, but was separated widely from the edges of the basin by abundance of serum. He could not now articulate, complained by gestures of want of breath; countenance pale, contracted, and expressive of anxiety; has been supported in his bed the whole night, not having any sleep; he has periods of comparative comfort and freedom from dyspnœa; thirst as before; gesticulates as to his mouth being sore. On the gums around the alveoli is a whitish line, with sordes, which are considered by Mr. Tomes as indicative of incipient ptyalism; expectorates a tenacious mucus; appetite deficient; pulse less frequent, and softer. Throat to be shaven; eight leeches to it; afterwards apply a poultice. Another dose of calomel.

15th, 9 A.M.—Has been dozing; starting in sleep; griping in his abdomen; straining to defecate, without voiding any fæces, what is passed being thin whitish flakes of membrane; unpleasant taste in his mouth; saliva flows copiously; tongue is cleaner; powers of life are considerably reduced; pulse weak. Ordered a mixture of gum acacia, nitre, hydrocyanic acid, and water. After being away from Bath for a few days for recreation, as I was returning to my preceptor, I met the patient in a street exercising himself; he was speedily regaining his health and vigour.

This case may be viewed as an instance of inflammation of the trachea and larynx combined. That the latter organ was involved, the frightful difficulty of swallowing, and its tenderness, would confirm; of the former, there was no discernible explanation on inspecting the fauces, as the tonsils were not swollen: both are diseases of alarming rapidity; the former of rare occurrence at such an advanced age. The epiglottis did not seem to have escaped; of this we have proof from the suffocative paroxysms occasioned by an attempt to swallow liquids. The detachment of the concrete membrane, its transit down the œsophagus through the alimentary canal, and the then mitigation of the symptoms without any recurrence, is of peculiar interest. The treatment was in truth energetic, as the danger of the case demanded; and when the specific effects of the mercury were apparent, an amendment occurred: the patient soon fell into a refreshing slumber. At no time were the symptoms of that kind as to have rendered an operation justifiable; for the hue of the skin did not manifest any indication of an excess of venous blood in circulation.

I am, sir, yours, &c.

HENRY HANKS,

Student of the London Hospital.

SUCCESSFUL APPLICATION OF CHLOROFORM IN FIRING A HORSE.

SIR,—If you think the following case not unworthy a place in your journal, you are at liberty to insert it, as affording another example (among many) of the utility of this invaluable anæsthetic agent.

I was desired by an eminent veterinary surgeon to be present at, and assist in, an operation which he was about to perform on a favourite horse, and to superintend the exhibition of the chloroform, of which he had never before had any experience. The animal was secured in the usual manner, and cast.

A large sponge, saturated with about three drachms of chloroform, was then placed in the bottom of a muzzle (no more convenient apparatus being at hand), and strapped over his head. In about one minute, slight struggling (as if from wishing to escape from the vapour) came on, and the breathing became slightly laboured; he then continued to breathe more tranquilly for the space of about two minutes. I then added about two drachms more to the sponge, and again applied the muzzle closely as before. In about thirty seconds the respiration became slower and heavier: a noise, as if from swallowing the vapour, was heard in the windpipe: the breathing immediately became stertorous; the eyes remained fixed, wild, and wide open; the pupils dilated to the fullest extent; the limbs perfectly motionless. I then considered insensibility perfect, and directed the veterinary surgeon to apply the "red-hot irons," which was done *most severely*, to the legs, without the animal appearing to suffer in the slightest degree; the only symptom indicative of consciousness was a slight *muscular contraction* when the iron was applied. After the operation was concluded, and the horse was freed from the ropes, he remained lying on the ground, in a half stupid state; and when roused, and again on his legs, he appeared for a short time as if lost, or *intoxicated*.

This being the first case in which I have had an opportunity of witnessing the effects of chloroform on "the horse," I am induced to notice it; and in such an operation as "firing," where I am told the struggling and pain are *very great*, I think it is admirably adapted to alleviate the sufferings of the animal.

I have since been informed by the same veterinary surgeon (who is a man of considerable experience), that he has used it most successfully in the operation of "nerving," which I am led to believe is one of the most severe and painful operations in veterinary surgery.—I remain, sir,

Your obedient servant,

PERRY DICKEN, M.R.C.S.

Ashby-de-la-Zouch,
Nov. 25th, 1848.

EVIL EFFECTS OF THE PRIZE AND MEDAL SYSTEM AMONG STUDENTS.

SIR,—Your obituary of the late Dr. Twining, notices the melancholy fact, that "his eagerness to attain distinction at Rugby, overtasked his strength, and laid the foundation for that cerebral disease which has thus prematurely (æt. 36) cut him off." If this were a single instance of the evil effects on the health, of exertion in gaining the prizes of schools or colleges, it might pass unregarded. But Dr. Twining was one out of a large number of young men who are victims of our modern system; and it is a most important subject for the consideration of those who have the direction of medical education. Observe the young men who return from London with prizes, and they have an exhausted, sapless look, which is infinitely distressing to those who know how worthless the distinction they have gained, is in comparison to the health they have lost in its attainment. For the most part they are crammed with words merely; for their examination is not in the *realities* of science, but in *words*. They are not proved to be good botanists in the garden or field;

their chemistry is not tested in the laboratory, nor their medicine and surgery in the wards of a hospital; but they are examined as to what they can *say or write* on these subjects,—not what they *know*; and the prize which rewards this word-knowledge is purchased with health, when health is the most necessary qualification to medical practice. It is not actual dissection, however vigorously pursued, nor practical chemistry in the laboratory, nor hospital attendance, which hurts the health, but closely working at books far into the night.

My strong advice to any young man going to London, would be to look at any prize which could be gained by mere reading and cramming, as not worth the exertion; but to aim to understand the *actual thing*, not to learn by heart the words which *represent* that thing, otherwise he will begin practice, with the small self-conceit which the boyish success at a college engenders, which self-conceit will be knocked out of him by the very painful process of disappointment, and perhaps failure in his actual struggle with the realities of things; for his over estimation has been founded on a false estimate of his attainments. He has been deluded by his prizes into the belief that he actually knows something, when he has perhaps only committed to memory a vast number of words. And if this false knowledge is gained by loss of health, he may find, when his judgment has ripened, and his early errors are corrected, that he is unable, from want of physical power, to go through the labours of his profession. The remedy for this false state of things lies with the examiners. If all honours in medical science were tested not by words merely, but by the students' knowledge of the things themselves, much of the evil of the present over-exertion in acquiring book-knowledge would be prevented. Instead of our looking at the new comers who have attained honours, as pretty sure to be empty wordy windbags, who will not become judicious practitioners, until their false conceit has been thrown out of them by some years experience in a world which does not often spoil a man, we older ones should more frequently have to hold out the willing hand of friendship and assistance to the modest merit of real knowledge; and the young man himself would not have to regret that he had prematurely weakened his body for no corresponding benefit to his mind.

I am, sir,
Yours obediently,
M.D.

November 1848.

Medical Intelligence.

UNIVERSITY OF LONDON.

M.D. EXAMINATION.—1848.

Case in Surgery for Commentary.

Examiners, Sir Stephen L. Hammick and Mr. Cæsar Hawkins.

"Mr. T., about 50 years of age, a robust man, rather inclined to corpulence, of very florid complexion, accustomed to good living, and of full habit, was thrown from his horse, and received a slight wound of the scalp, in the very hot weather of 1826. Feeling little inconvenience from the accident after its immediate effects had subsided, he continued his usual mode of living, and went for two or three days from his residence to the city, a distance of four or five miles. Severe inflammation of erysipelatous character came on, commencing at the wound, extending gradually over the scalp and face on the same side, and causing considerable swelling, with closure of the eyelids. In the course of four or five days, he was thrice bled, to the amount of twenty ounces on each occasion, and was subjected to the other parts of the antiphlogistic plan. When I saw him at the end of this time, the scalp on the left side of the head was slightly red, and raised into a general elevation, apparently by matter diffused through the cellular texture under the aponeurosis near the wound, and by serous effusion in the circumference. There was a small opening through the inflamed and swollen scalp on the left parietal bone, the original wound; and another, about three inches further back, which had been made to let out matter. Through these a well-formed pus could be slowly squeezed. The face was red, and swollen with erysipelas; the tongue was of a dirty white all over, and rather dry; the pulse full, but not very strong.

"As the openings were manifestly inadequate to the discharge of matter, which could be pressed towards them from a considerable distance, and as the suppuration was extending under the aponeurosis, I laid the two apertures into one, dividing an artery, which bled freely. This was allowed to bleed on, as I thought a further loss of blood necessary, although the patient was averse to the measure. The bleeding was continued until faintness came on, when the artery was tied: the blood, which had been caught in a basin, amounted to more than twenty ounces. (Two grains of Calomel, with two of James's powders, every six hours; saline medicine with saline aperients; milk diet.)

Mr. T. slept well, and was much better the next day, the tongue being particularly improved. He continued the medical treatment with slight variations; the inflammation and suppuration of the scalp were arrested, but the erysipelatous redness and swelling passed over to the opposite side of the face. In about a week he began to take the subcarbonate of ammonia, and he recovered quickly and completely."

In commenting on this case, you will describe the varieties of Erysipelatous Inflammation likely to follow a scalp wound, and you will explain such modifications of the local and general treatment as these varieties require, with your reasons for them; pointing out what circumstances may, in your opinion, indicate a line of treatment similar in kind or in degree to that adopted in the above case.

Case in Midwifery.

Examiner, Dr. Rigby.

Mrs. H., ætat. 22, primipara; strong and well made; reckons from May 10.

Feb. 12. Pains came on early this morning. The practitioner made his first examination at 12, and found the os uteri nearly dilated; at 1 it was fully dilated, the head presented, and he thought he could distinguish that it was in the 3rd cranial position. The pains became very lingering, a small bladder of Liq. Amnii had gathered at 6 o'clock, when he ruptured the membranes and a considerable quantity of water dribbled away. The pains became more severe, but no expulsive efforts were made by the patient; at 9 o'clock, as she was becoming exhausted, he applied the short forceps, and delivered her of a very fine living male child. The placenta followed easily. Shortly afterwards she had a good deal of pain in her back and loins, owing to the presence of a small but firm clot of blood, which external pressure enabled the uterus to expel.

Feb. 13.—Quite easy; has passed a good night; the child has taken the breast well.

Feb. 14.—Has passed a very restless night; much pain of abdomen, which is very full and distended; pulse 125; the bowels have not been opened since the day before yesterday.—℞. Hydr. chloridi; Extr. Lupuli, aa. gr. vj. mist. Pil. ij. statim sumendæ. Haust. Sodæ Potass.-Tart. 4tis horis.

Feb. 15.—Bowels very copiously relieved of much unhealthy matter; pulse 88; feels easy.

Feb. 16.—Is doing well.

1. What must have been the position of the fontanelles of the child's head, if it had presented as the practitioner supposed?

2. What was the probable cause of the lingering pains?

3. What was the nature of the after attack?

4. What is your opinion of the treatment?

Tuesday, November 28.—Morning, 10 to 1.

Examiners, Drs. Billing and Tweedie.

Medicine.

1. Sketch the pathology of spontaneous hæmorrhages, including their local and constitutional effects.

2. Describe the forms of acute rheumatism, with the complications that arise in its progress. Give an outline of the treatment.

3. Give the diagnostic characters and treatment of delirium tremens.

4. Describe the anatomical characters, diagnostic symptoms, and terminations of inflammation of the cæcum. How should it be treated?

Afternoon, 3 to 6.

1. Describe the varieties of periodic fevers, their causes and complications.

2. What are the indications to be kept in view in the treatment of epilepsy, and the best means of fulfilling them?

3. Describe the causes and physical signs of dilated bronchi.

4. Sketch the symptoms of inflammation of the iris. Enumerate its forms, and give an outline of the treatment.

GRADUATES OF UNIVERSITY OF LONDON.

M.D. EXAMINATION—1848.

First Division.—Barnes, Robert, Adjoining St. George's Hospital; Brinton, William, King's College; Browne, Henry, King's College; Parsey, William Henry, King's College; Payne, Arthur James, King's College; Russell, James, King's College; Sibson, Francis, University of Edinburgh; Smith, William Tyler, Bristol Medical School; Whittle, Ewing, College of Surgeons in Ireland. *Second Division.*—Pyper, Robert Deverell, Middlesex Hospital; Randall, John, St. Bartholomew's Hospital.

Dr. Sibson was recommended by the examiners for the gold medal, for his commentary on a case in medicine.

APOTHECARIES' HALL.

Names of Gentlemen who passed their examination in the science and practice of medicine, and received certificates to practise, on Thursday, 7th December, 1848:—Warren Fincham—Samuel Wallace, Carshalton—Robert Woodman, Weymouth—Walter Robert Crouch, Bruton, Somerset—Matthew Gosling, Liverpool.

BOOKS & PERIODICALS RECEIVED

DURING THE LAST TWO WEEKS.

Edinburgh Monthly Journal of the Medical Sciences. December.
Pharmaceutical Journal. December.
The Ethnological Journal. Nov. 7, Dec.
London, Edinburgh, and Dublin Philosophical Magazine. December.
The British Record of Obstetric Medicine.
Practical Pharmacy. By F. Mohr and T. Redwood.

Journal of Public Health. December 1848.
Observations on the Management of Madhouses. By C. Crowther, M.D.
Casper's Wochenschrift. Nos. 46 and 47.
The Serpentine as it is, and as it ought to be. By E. J. Tilt, M.D.
Sir A. Morison's Lectures on Insanity.
The Cholera at Malta in 1837. Translated by Dr. S. Watson.

BIRTHS & DEATHS IN THE METROPOLIS

During the Week ending Saturday, Dec. 9.

BIRTHS.		DEATHS.		*Av. of 5 Aut.*	
Males....	715	Males....	572	Males....	581
Females..	666	Females..	574	Females..	573
	1381		1146		1154

CAUSES OF DEATH.		*Av. of 5 Aut.*
ALL CAUSES	1146	1154
SPECIFIED CAUSES	1146	1149
1. *Zymotic* (or Epidemic, Endemic, Contagious) *Diseases*..	370	270
Sporadic Diseases, viz.—		
2. Dropsy, Cancer, &c. of uncertain seat	43	52
3. Brain, Spinal Marrow, Nerves, and Senses	113	127
4. Lungs, and other Organs of Respiration	188	229
5. Heart and Bloodvessels	42	38
6. Stomach, Liver, and other Organs of Digestion	60	67
7. Diseases of the Kidneys, &c...	13	12
8. Childbirth, Diseases of the Uterus, &c.	6	14
9. Rheumatism, Diseases of the Bones, Joints, &c.	6	8
10. Skin, Cellular Tissue, &c.	0	2
11. Old Age.....	43	64
12. Violence, Privation, Cold, and Intemperance	30	33

The following is a selection of the numbers of Deaths from the most important special causes:

Small-pox	27	Paralysis	12
Measles	27	Convulsions	42
Scarlatina	117	Bronchitis	72
Hooping-cough ..	49	Pneumonia	84
Diarrhœa	20	Phthisis	122
Cholera	21	Dis. of Lungs, &c..	15
Typhus	65	Teething	13
Dropsy	16	Dis. of Stomach, &c.	8
Sudden deaths	5	„ Liver, &c...	7
Hydrocephalus....	29	Childbirth	5
Apoplexy..........	20	Dis. of Uterus, &c..	1

REMARKS.—The total number of deaths was 8 below the weekly autumnal average. See page 1027.

METEOROLOGICAL SUMMARY.

Mean Height of the Barometer .... 29·44
„ „ „ Thermometer^{a} ...... 49°
Self-registering do.^{b} .... Max. 63·2 Min. 29·5
„ in the Thames Water „ 48° „ 41°

^{a} From 12 observations daily. ^{b} Sun.

RAIN, in inches, 0·74.—Sum of the daily observations taken at 9 o'clock.

Meteorological.—The mean temperature of the week was 9° above the mean of the month.

NOTICES TO CORRESPONDENTS.

We will endeavour to find room for Mr. Noble's communication on the Contagion of Cholera in an early number.

Dr. Adams's paper on the Placenta will be inserted according to the date at which it was received.

We join in the indignation of a General Practitioner respecting the quackery of professional men. We only wish that the profession looked at the paragraph in the same light as our correspondent, and we should not despair of seeing this vile system of puffing suppressed.

The letter of J H. on Sanguineous Perspiration is under consideration.

Mr. Sands Cox.—The case has not escaped us. We are waiting for the decision of the Judges before making any remarks on the subject.

Mr. R. Mayle (Penzance).—We do not think our correspondent has been fairly treated, and we will see how far the insertion of the paper can be expedited.

Dr. Gavin.—An answer will be sent.

Neill and Smith's Compendium.—Mr. Renshaw writes to inform us that the authors of this work (reviewed in our last number) have pirated its contents from various English Manuals, published by Renshaw and Churchill. The pirated parts are not indicated, but we have no reason to doubt Mr. Renshaw's statement, and we join with him in condemning this disgraceful practice. The compilers, in their preface, disclaim all pretensions to originality; but this does not justify the wholesale robbery of the labours of English authors, who are hardly dealt with as it is, by the constant reprint of their works in America. The practice of pirating works is not, however, confined to American authors. Some recent instances might be cited where English authors have been guilty of as flagrant acts of piracy on works of their own countrymen, as those charged against Drs. Neill and Smith: and publishers have not hesitated to sanction such dishonest proceedings. Until we set an example of honesty among ourselves, we cannot expect to find it among transatlantic authors and publishers.

N. F. D.—We have not met with any account of the fact referred to, and shall be glad to receive the paper.

RECEIVED.—Mr. W. Smith, Belper.

THE GENERAL INDEX.

We have to announce to our Subscribers that a GENERAL INDEX to the *first* 40 *Volumes* of the LONDON MEDICAL GAZETTE will, it is calculated, form a large Volume of about 700 pages. The cost of the INDEX VOLUME, respecting which many inquiries have been made, will be Twenty-four Shillings; and it is proposed to commence it so soon as the Names of *Five Hundred Subscribers* have been obtained.—The printers, Messrs. WILSON AND OGILVY, 57, Skinner Street, will receive the Names of Subscribers.

Lectures.

COURSE OF SURGERY,

Delivered in the years 1846 *and* 1847,

By Bransby B. Cooper, F.R.S.
Surgeon, and Lecturer on Surgery at Guy's Hospital.

Lecture XLV.

STONE IN THE BLADDER.

Stone the result of defective elimination, or of the intrusion of a foreign body into the bladder—Premonitory symptoms of gravel and stone—Calculus in the kidney—Symptoms—Stone in the ureter—Symptoms—Discharge of the stone [illegible] *ulceration—Case—Treatment—Medical treatment in premonitory symptoms of stone—Stone in the bladder—Indications of the stone having passed into the bladder—Means of promoting the discharge of concrete matter—Use of forceps—Symptoms of stone in the bladder in children—Symptoms simulating those of stone—Treatment—Cases—Detection of stone—Difficulties—Proportionate difficulties to be expected in the operation of lithotomy in such cases—Sounding—its use—Prognosis in stone—Size of calculi—Cases—Symptoms not generally severe in proportion to the size of the stone—Cases—Number of calculi does not increase the danger in lithotomy—Sir Astley Cooper's case of* 142 *calculi in the same bladder.*

Before I enter into a detail of the symptoms of stone in the bladder, I must call your attention, gentlemen, to those premonitory interruptions to natural function which evidently shew that urinary concretions are the result of deficient elimination from the blood, owing to that fluid being defective, from a deterioration in the assimilative powers of the system. Urinary calculi may therefore frequently be attributed to a disordered state of the digestive organs, and dyspeptic symptoms are usually more or less concomitant with the formation of these concretions. It is true that an imperfect elimination of healthy urine may also proceed from disease in the secreting part of the kidney itself; but this would be shewn by a train of symptoms indicative of kidney disease. Another source of stone may be the accidental intrusion of a foreign body into the bladder; but, under any circumstances, stone can only be the result of a secondary action. Indigestion is too wide a field to be dwelt upon in this lecture; but it must be evident that a healthy condition of the assimilative powers is requisite to produce pure blood, as from this alone can normal urine be eliminated; so that, if there be any circumstance to disturb the due performance of the digestive function, the integrity of the blood will be destroyed, and the kidneys will be no longer capable of secreting or excreting urine in its natural chemical state.

Of the diseases of the kidneys in connection with the formation of calculi, little can be known until we possess a more perfect knowledge of the physiology of secretion; but when we consider that the formation of the urine for excretory purposes is one of the great means for the depuration of the blood, it is certain that a morbid condition of the secerning portion of the kidney would cause a change in the character of the urine secreted, and probably, at the same time, the deposition of its earthy and alkaline constituents. When a foreign body is lodged in the bladder, such as a fragment of broken bougie, or portion of fibrin, the urineous salts almost invariably concrete around it. Under these circumstances, the urine undergoes further change, in consequence of the secreted mucus being rendered abnormal, from the irritation caused by the intruding substance. This deposition of the salts is somewhat analogous to the crystallization which takes place upon a body suspended in a saturated saline solution. The premonitory symptoms of gravel or stone arising from defective assimilation, are dyspepsia, and an abnormal state of the urine, indicated by the quantity of the secretion being much diminished, by its turbidity, and by the frequent desire of the patient to pass it. It rarely, however, happens that these early symptoms fall under the notice of the surgeon; for, as the inconvenience is comparatively but slight, medical assistance is seldom sought until more urgent symptoms supervene.

Calculus in the kidney.—When the concretion has formed in the kidney, it gives rise to a series of acute symptoms which render medical aid at once necessary,—such as pain in the region of the kidney, extending into the epigastrium, frequently attended by vomiting, great intolerance of the stooping position, and not unfrequently by the evacuation of bloody urine. These symptoms are sometimes spontaneously relieved by the stone passing from the kidney through the ureter into the bladder; but in more urgent cases the stone may ulcerate from the kidney, lead to the formation of an abscess in the loins, and so discharge itself; but if the stone does not make its escape either by the ureter or by ulceration, the concretion in the kidney may increase so as to fill up the whole of the excretory part of that organ, destroying its secerning function, and finally leading to the death of the patient. In the post-mortem examination of such cases, the tubuli uriniferi, infundibula, and pelvis of the kidney, are frequently found filled with calcareous matter: there are many preparations in our museum illustrative of this condition.

Stone in the ureter.—When the stone reaches the ureter, in its passage from the kidney to the bladder, it produces very similar symptoms to those already described as indicating its formation in the kidney; but the pain becomes erratic, extending from the loins downwards in the direction of the psoas muscle, and is often attended by a sensation of uneasiness at the superior spinous process of the ileum. As the calculus descends through the course of the ureter, it irritates the spermatic plexus of nerves, and produces spasmodic contraction of the cremaster muscle, with consequent retraction of the testicle, and frequent and severe sickness. Occasionally these symptoms suddenly disappear, which indicates that the stone has passed from the ureter into the bladder; while at other times the stone, being too large to pass, induces a high degree of inflammation, causing ulceration, by which process the calculus has been known to be discharged into the colon, or, by means of abscess, through the loins. The following is a case in which such a result occurred:—A patient of Sir Astley Cooper was supposed to be in the last stage of anæmia from protracted discharge from a psoas abscess. A new feature had, however, arisen in the case, from what was supposed to be a piece of bone, which prevented the free discharge of the pus. Sir Astley Cooper enlarged the opening to remove this solid body, which he found, to his great surprise, to be a calculus of considerable size. Other cases are also mentioned in which calculi have passed along the ureter as far as the point where that canal terminates in the bladder, and, becoming impacted there, have produced the most severe and urgent symptoms. The exact position of the stone may be diagnosed by the circumstance of the pain having become quite fixed, instead of shifting its situation, as it does when the calculus moves along the ureter. Having ascertained, by passing the finger up the rectum, and by the sound, that the stone is fixed in the ureter, there would be no alternative but to cut down through the rectum into the bladder, to remove the stone by the forceps, according to the plan of Dessault, or to open the bladder above the pubes. I consider the latter to be the safer and more certain operation, as the surgeon can see how to proceed, while in the operation per rectum he must be guided by his anatomical knowledge alone. If the calculus becomes impacted higher up in the course of the ureter, so as to be beyond the reach of the surgeon, the ureter above the stone, the pelvis of the kidney, and the whole of its excretory part, become so distended by urine as to destroy its secreting power, and lead to suppression of urine, and the destruction of the life of the patient, the symptoms having been indicative of effusion into the cavities of the brain, the pericardium, and the serous membranes generally.

Medical treatment may do much for the relief of the premonitory symptoms which indicate a tendency to calculous concretions; and, therefore, the very first signs of dyspepsia should be combated, as the restoration of the assimilative powers to their normal vigour may prevent the occurrence of calculous formations.

Treatment of premonitory symptoms.—When there is reason to suppose that dyspepsia is the exciting cause of the abnormal condition of the urine, and there exists at the same time a preponderance of acid in that fluid, I have found the following medicines very effectual in restoring the tone of the digestive organs:—℞ Pil. Hydrarg. gr. j.; Pulv. Rhei, gr. v. M. ft. pil. hora somni sumend.—℞ Amm. Sesquicarb. ʒss.; Sodæ Sesquicarb. ʒjss.; Pulv. Rhei, ℈ij.; Træ. Card. Co. ʒss.; Inf. Gentian. Co. ℥vijss. M. Capt. Cochl. larga, ij. bis quotid. I have also found a grain of the acetic extract of colchicum, added to the pill, produce a very good effect. The restoration of the appetite, cessation of uneasiness in the region of the stomach, and of eructations after eating, together with a restored normal state of the urine, are certain indications of the efficacy of the remedies: should they, however, fail to produce the desired effect, hydrocyanic acid and change of air will sometimes be found of great service. This treatment may be considered to relate to what may properly be termed the first stage of calculous disease, or rather, perhaps, to the diathetic tendency to it. In the second stage, viz. where the stone has already formed in the kidney, and the symptoms are pain in the loins and in the course of the ureters, the hot bath must be employed, blood abstracted either by cupping or from the arm, and large doses of opium, with a purgative enema, should be administered to secure the emptying of the large intestines; for I believe that, in addition to the purgative effect, the increased peristaltic action of the bowel mechanically facilitates the passage of the stone along the ureter.

Stone in the bladder.—As I have already mentioned, the sudden cessation of all the urgent symptoms indicates that the stone has passed into the bladder: when this has taken place, the urine should be chemically examined for the purpose of ascertaining the nature of the change that has been produced in it, so that the tendency to the formation of such concretions may be combated by appropriate remedies: the most effective means must also be adopted to promote the discharge of the newly lodged calculus from the bladder: this object may often be effected by introducing large bougies into the urethra, and by the patient retaining his water until the bladder becomes much distended, and the desire to micturate excessive; the urine should then be passed with the body bent forward, and with a violent effort, when the stone is sometimes forced along the urethra by the impetuosity of the stream. In passing the urine in this manner, it is advisable to receive it on a small muslin bag, so that, if any portions of calculous matter be passed, they may be detected. If, however, these means of producing the spontaneous discharge of the stone by the urethra fail, in consequence of the size of the concretion being too great to allow the force of the water alone to discharge it, the "urethral vesical forceps," invented by Sir Astley Cooper, may be employed; and many cases are recorded in which the efficacy of this instrument has been fully tested and established. Sir Astley Cooper describes some cases in which he removed large numbers of calculi from the same bladder by means of these forceps; and I believe that to this instrument may be attributed the invention of the lithotrite, which has proved so available in the practice of surgery.

When a stone has lodged in the bladder, and cannot be voided by the urethra, whether it had formed in the bladder itself, or passed into it from the kidneys, a train of symptoms is produced which enables us to distinguish its presence almost with certainty. The patient has great intolerance of motion, is generally easier in the recumbent than in the erect or sitting posture: when under exertion, there is a frequent desire to make water; but only a small quantity is passed at a time, and is generally of a paler colour than is natural to the secretion. If the patient be subjected to a jolting motion, as in riding on horseback or in a cart, the desire to make water is much increased, but frequently, while flowing, it will stop suddenly, in consequence of the stone falling into the neck of the bladder, producing a violent paroxysm of spasm, frequently followed by a flow of bloody urine. During the paroxysm, a strong desire to evacuate the bowels is experienced, and the patient, to relieve his sufferings, bends his body forwards, keeping his legs separated, and in this position he voids the last drops of urine, complaining at the same time of a darting pain in the glans penis; thus referring the sensation to the extremities of the nerves, and not to the part immediately irritated by the stone. In children, elongation of the prepuce, from their pulling and pinching it during the paroxysms of pain, forms another symptom of stone; and prolapsus ani is also a frequent concomitant of this disease, especially before the age of puberty.

An ulcerated state of the bladder, certain diseased conditions of the prostate gland, or the presence of little sandy concretions, may produce symptoms closely resembling those of stone. I have also found, especially in children, symptoms similating those of stone when none really existed; and in such subjects I have frequently met with a roughened state of the bladder, and on turning the sound its point passes over thickened and hardened rugæ, which I can only compare to the bars in the roof of a horse's mouth. The sensation thus communicated to the hand may easily be mistaken for that produced by the presence of a soft calculus; and I believe that in cases where, upon operation, no calculus has been found, this roughened state of the bladder was the cause of the mistake: at the same time, it is worthy of remark, that this condition I have never found concomitant with stone, and I therefore, in such cases, resort to constitutional remedies, and have found the following very effectual:—℞ Liq. Potass. ʒij.; Muc. Gum. Acac. ℥iss.; Trae. Hyos. ʒj.; Mist. Camphor. ℥vjss. M. Capt. cochl. larg. ij. bis quotodie.—℞ Hydrarg. cum Creta, gr. iij; Pulv. Doveri, gr. iij. M. Ft. Pil. ij. omni nocte.

A solution of sulphate of magnesia and chamomile tea will generally be required to keep the bowels in a natural state, owing to the constipating tendency of the other remedies. An instance of symptoms similar to those of stone, and which proved to be unconnected with disease of the bladder, I consider well worth relating:—Major R. consulted me respecting his son, who was suffering from symptoms of stone, attended with great irritation along the course of the ureter: on sounding him, I could not detect any calculus, although he had suffered all the usual indications of the presence of stone for more than a year. He had been sounded by Mr. Hodson, of Lewes, and a surgeon of Brighton, both of whom had told the father that although they could not discover a calculus they had little doubt of its existence. My friends, Dr. Golding Bird and Dr. Rees, both analysed his urine at my request, and pronounced it healthy;

but as there was considerable irritation about the bladder, I ordered him Liquor. Potass. with Træ. Hyoscy., from which he derived no relief. Dr. Bright then met me in consultation, and recommended a belladonna plaster to be applied to the loins, and prescribed Decoc. Pareiræ: these remedies were had recourse to, but without any beneficial effects. As at this period my patient complained of increased pain in the course of the left ureter, I was induced to make a strict examination of his person, to ascertain whether there existed any local cause to account for the symptoms, when I discovered that the left testicle was lodged in the inguinal canal. The slightest pressure on the testicle produced an aggravation of all the symptoms: I was therefore led to believe that they might be referable to the abnormal position of the testicle. Under this conviction I determined upon producing, if possible, its descent into the scrotum; and for this purpose I had a truss constructed to press upon the inguinal canal above the testicle, furnished with a strap which passed under the thigh, and kept the apparatus perfectly fixed. At the same time I attached the lower part of the scrotum to the thigh by strips of adhesive plaster, and thus maintained the gubernaculum in constant tension, tending through its instrumentality to draw the testicle into its normal position. This treatment proved perfectly successful; for in the course of a week the testicle had passed through the external ring, and from that moment every symptom of stone ceased.

A boy, aged 15, was admitted into Stephen's ward, suffering from all the symptoms of stone in the bladder, with the exception of bloody urine; he was frequently sounded, but a calculus could never be detected. From the experience acquired in the case just recited, I was induced to make an examination, to ascertain whether the testicles had descended, and found that the left was not in its natural position, but remained fixed in the inguinal canal.

I adopted a system of treatment in this case similar to that I above described, with the exception that I had an apparatus constructed by Mr. Bigg, for the purpose of keeping up the tension upon the gubernaculum by means of a spring; and in the course of a very short time the testicle descended into the scrotum, and, as in the former case, all the symptoms of stone immediately subsided. I have frequently witnessed most anomalous symptoms of urinary affections concomitant with non-descended testicle; nor can this circumstance be considered surprising, when we remember that the renal and spermatic plexus of nerves derive their source from the same roots, and are equally liable to disturbance from the same cause of irritation.

Operation of sounding.—These cases sufficiently prove that the mere circumstance of a patient suffering from the symptoms of stone, does not demonstrate its existence in the bladder: hence arises the necessity for applying the test of sounding. This operation consists in passing into the bladder the instrument termed a sound, and, by a gentle searching motion, exploring the whole of the interior of the viscus. If a stone be present, it is in general easily detected, and can not only be felt, but may also be struck, so that the sound of the blow can be distinctly heard by the operator and those standing around him. A stone may, however, escape detection by the sound, either on account of being situated behind the prostate, when that gland is enlarged, or from being lodged above the pubes, or, perhaps, if it be very small, from its becoming enveloped in the folds of the bladder. In the first case, the stone may easily be discovered by passing the finger up the rectum, so as to raise the stone from its situation behind the prostate gland; in the second, it may be displaced by pressure upon the pubes; while in the *third*, the calculus may be discovered by injecting the bladder with tepid water, so as to distend it and unfold its rugæ, leaving the small calculus exposed to detection by the sound. Calculi are also said to be sometimes contained in sacculi of the bladder which are produced by a sort of hernia of the mucous membrane between the fibres of its muscular coat. This condition is indicated by the circumstance of the stone, when discovered by the sound, being always found occuping exactly the same position.

When the detection of a stone is attended by any of these difficulties, its extraction by the operation of lithotomy is certain to be proportionately impeded; and, therefore, under such circumstances, the surgeon should keep the patient some time under his observation before he performs the operation, in order that that he may become completely master of the peculiarities of the case, and be the better prepared to meet the difficulties likely to present themselves.

By the operation of sounding you not only ascertain the presence of a stone, but may also form a pretty acurate opinion of its size, shape, weight, and hardness, and the knowledge of these physical properties will probably serve to regulate the medical treatment, as well as the mode of proceeding with the operation, particularly as to whether it be advisable to adopt that of lithotrity or of lithotomy. At all events, when a stone is discovered beyond doubt to be present in the bladder, a surgical operation offers the only means of permanent relief; but before you proceed to this extreme measure, it is proper to consider carefully the concomitant circumstances of the case, as indicative of a favourable or unfavourable result,—you should, indeed, technically speaking, form the prognosis. In calculating the probability of a successful issue to the operation, the age, constitution, and previous habits of the patient, must be taken into serious account, as well as the nature and extent of the local affection. If the patient be advanced in years, his constitution broken by excess, or impaired by want or anxiety, or if he be naturally of a cachectic habit, the prognosis should be determined with great caution, and, generally speaking, under such circumstances it would be extremely unfavourable, and, where the symptoms of stone are aggravated, perhaps hopeless. Local circumstances must also influence the judgment as to the advisability of submitting a patient to the operation: for instance, the bladder may be thickened, perhaps ulcerated, and this may be attended by an albuminous state of the urine. In such cases, the first care of the surgeon must be the general health of the patient, which should be restored by the administration of appropriate remedies, before the removal of the stone is ventured on. Albuminous urine must not, however, be considered a proof of organic change in the kidney. I have, indeed, scarcely ever tested the urine of a subject of stone in the bladder, without detecting the presence of albumen: and ,if the patient be young, of good constitution, without any other indication of organic disease of the kidneys, liver, or lungs, and the bladder itself is also sound; and if in addition he be neither of an irritable temperament nor scrofulous diathesis,—notwithstanding the presence of albumen in the urine, the prognosis may be favourable, and a successful termination to the operation be reasonably expected.

The success of a surgeon in the operation of lithotomy depends almost entirely upon his judgment in distinguishing the circumstances under which it becomes advisable to perform the operation, or at once reject the case as unsuitable to it. Wherever there is much functional disturbance or organic disease, the operation ought, in my opinion, not to be attempted, as failure brings it into disrepute, and renders many on whom it might be safely performed fearful of the result; thus inflicting an injury upon the science of surgery, and tending to deprive those who are suffering, of the only means of obtaining permanent relief.

Advanced age does not appear much to influence the result of the operation for stone. I have myself performed it upon infants fourteen months old, and upon adults even up to the age of eighty, with equal success. At the same time, children certainly support the operation with least constitutional disturbance, and at any period of life before puberty the result is usually successful. Aged patients also appear to suffer less than persons in mid-life; and indeed, so far as my own experience goes, I am inclined to believe that the danger in lithotomy is in proportion to the vigour of the procreative energies.

The size of calculi varies very considerably, and materially influences the means to be employed for their removal, as well as the result of the operation. The danger in the operation is certainly increased according to the magnitude of the stone, which is sometimes found so large as to preclude the possibility of its extraction. There is a calculus in the museum of the College of Surgeons weighing 44 ounces: such a mass could never have been extracted by operation. In Trinity College Library, Cambridge, there is a calculus weighing 32 ounces; and there is also one mentioned in Pepys' Diary, p. 215, vol. ii., which was removed after death from the bladder of Sir Thomas Adams, Alderman of London, weighing 25 ounces; and, what is the most extraordinary part of this history, during his life he never complained of any symptom of stone, and died of another complaint.

I once saw the operation of lithotomy performed by Sir Astley Cooper in a case in which he removed a calculus weighing 16 ounces: the operation occupied nearly two hours, and the patient died four or five hours after it was completed. So large a stone should never be attempted to be removed whole, but when its existence is suspected, an instrument should be prepared beforehand to crush and break it down into small portions after the bladder has been opened. The largest stone I have ever removed weighed 6½ ounces, and the patient recovered from the operation. It is worthy of remark, that the symptoms are not generally severe in proportion to the size of the calculus; of this I have had frequent examples in my own practice. In September 1834, I was sent for by Mr. Harrison, of Hoddesdon, Herts, to visit a patient who was suffering from retention of urine. Mr. Harrison had attempted to draw off the water, but could not succeed in introducing the catheter into the bladder: I tried, but met with the same insuperable impediment to the passing of the instrument, and which I found to proceed from a calculus impacted in the urethra. I at once proposed to remove it, and as the patient consented, I performed the operation, cutting down upon the stone, in perineo, just below the scrotum. The stone was about the size of an almond, and was easily removed. I passed a catheter into the bladder to draw off the water, and then, to my great astonishment, discovered a very large calculus, the existence of which was totally unexpected, as the patient, a young farmer, had been working in the hay field as usual up to the time of being attacked with retention of urine, suffering no inconvenience in the heavy labour of "pitching" the hay into the waggon. A week after removing the calculus from the urethra, I saw the patient again; he was suffering considerable constitutional disturbance, arising apparently from the irritation produced by the constant flow of urine through the wound, excoriating the scrotum and perineum. I advised him to come into Guy's Hospital, which he did. After he was admitted, I passed an elastic gum catheter, and kept it in the bladder, as urine was constantly dribbling from him. In the course of a few days, however, he was attacked by fever, and died a week from the time of his entering the hospital. In the post-mortem examination, a stone, weighing nine and a half ounces, was found in his bladder; it physically resembled the smaller calculus which I had previously removed from the urethra, and which, on being analysed, was found to consist chiefly of carbonate of lime, there being merely a trace of the phosphate present. The larger stone was not subjected to analysis, but it, as well as the bladder, is preserved in the museum at Guy's. Another case of calculus of extraordinary size, unattended by constitutional irritation, was related to me by Dr. Stephan, of Wurtzburg. A patient was admitted into the hospital of that town, complaining of the symptoms of catarrhus vesicæ, unattended by any of the symptoms of calculus; but on passing a catheter, for the purpose of washing out the bladder, a large stone was discovered. The lateral operation was performed, but the size of the stone was so great that it could not be removed by the opening. As soon as the patient was sufficiently recovered, a second attempt was made, the recto-vesical section being adopted; but this was equally unsuccessful with respect to the removal of the stone, and it proved fatal to the patient. When the body was examined after death, it was discovered that the stone was too large to pass through the inferior opening of the pelvis, and indeed, after the skeleton was prepared, the stone could not be drawn through. The pelvis and the stone are preserved together in the museum of the hospital at Wurtzburg.

I have often felt surprise at the comparatively slight suffering experienced by patients when the stone is of the kind termed the mulberry calculus, which, from the excessive roughness and irregularity of the surface, we should expect would be productive of great pain. On the contrary, however, it seems to afford much less inconvenience and constitutional disturbance than is experienced when the stone is composed of the triple phosphate. The number of calculi, if small, as Sir Astley Cooper has remarked, does not seem to add much to the danger of the operation of lithotomy, as it merely becomes necessary to repeat the introduction of the forceps, without the employment of additional force. In one case Sir Astley Cooper successfully removed 142 calculi; but I have myself never met with more than six in the same patient. When more than one stone is present in the bladder, their surfaces are rendered polished by rubbing against each other, so that wherever a very smooth stone is removed in the operation, a careful examination should always be made to ascertain if others be not present.

Original Communications.

CASE OF LACERATED LIVER.

(*Read before the South London Medical Society, Nov. 9th,* 1848.)

By H. K. Owen, Esq. M.R.C.S. &c.
(Vice-Pres., formerly Hon. Sec., of the Society),
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J. T., aged 22, a young gentleman, of strumous diathesis, of pale complexion, light air and eyes, of general good health, but the subject of reducible inguinal hernia, when first seen by me on the 23d of August, at half-past 9 P.M. was in a state of extreme collapse. From the report at the time, and since obtained, he had been in the afternoon drinking, very little, but sufficient to excite him a little. He got into a light chaise to have a race with a companion on horseback. While passing very quickly along a curved part of the road, he was suddenly thrown out. Accounts vary as to the exact manner of the fall: he was seen, immediately before being thrown, leaning over the splashing-board, as if having lost, and endeavouring to regain, the reins. By his own account, the wheel passed over the abdomen; but this is by no means clear. He appears to have got up and walked a few yards to rest upon a chain. A policeman, who had seen the accident, came up, and asked if he was hurt. He answered, "he was afraid he was a good deal hurt internally." He partly walked and was helped to a surgeon's within a few yards. At this time he was trembling, cold and pale, with a small pulse, and complaining of pain in the stomach. He was laid in the recumbent position, and ammonia given, without much, but yet a little rallying. A short time after he was put in a cab, and conveyed home, a distance of about two miles.

When seen at half-past nine (about two hours after the accident), he was lying on a bed; his face pale; features contracted, and eyes sunk, with dark areola around. The whole surface very cold, and covered with clammy perspiration. Pupils moderately contracted, acting on light. No pulse could be felt at either wrist, and the action of the heart could with difficulty be perceived. He was partially sensible, answered questions, and referred to the seat of pain. Respiration short and hurried. Restlessness. There was a superficial wound on the left side of the forehead, and over elbows and knees. None over body. The stone of a ring had been crushed by the accident. Brandy and water, and ether, were given at intervals. Sinapism to the region of the heart. Hot blankets over body, and bottles to feet.

After a continuance of these means for four or five hours, a pulse at the wrist could be felt, as also the action of the heart, and a degree of warmth was diffused over the surface of the body and extremities. The stimulants were ordered to be repeated as required, and a linseed meal poultice to cover the abdomen, which was painful.

Aug. 24th, 6 A.M.—The circulation has improved, although a coldness of surface still exists, especially about the face and nose. Great complaint of pain at the top of the shoulder; no injury of this part can be detected. The movements of the arm are quite free, and there is no tenderness of this part on pressure. He complains of pain, or rather soreness, over the region of the liver, abdomen, and right lumbar region, extending up the back of the chest; the breathing is still short and hurried, and increases the pain of the side. Can only lie on the left side, being unable to turn round, on account of the increase of the pain of the opposite side, especially of the shoulder, which seems greatly to distress him. Pulse small but regular, 120. Since last visit he has passed about four ounces of urine, turbid with brown sediment, coagulable on boiling, and evidently containing blood.

9 A.M. — Reaction has increased, otherwise he is much the same: shortly after this visit the abdominal pain greatly increased, and was referred chiefly to hepatic, epigastric, and lumbar regions, shooting towards shoulder posteriorly; the breathing, very short, increases the pain, as also does slight pressure on the parts; bowels not open; no sickness; the pain prevents change of position, which is quite on left side; pulse 120; tongue coated; incessant thirst; a degree of distension about the abdomen. A dozen of leeches were ordered to the painful side, followed by poultices.—℞ Hydr. Chlor. gr. ij.; P. Opii, gr. ½ 3tis vel 4tis horis. These means did not at first give much relief, the countenance being still pale, and a disposition to coldness existing; pulse; inability to change position, and other symptoms much the same; pain at present chiefly referred to hepatic region and umbilicus. Mr. Aston Key visited him with me in the evening, and one grain and half of Opium, with the same quantity of Ipecacuanha Powder, ordered at bed-time.

25th.—Has passed a pretty good night, although disturbed at intervals by the pain; has appeared somewhat improving since yesterday afternoon, and is more like himself this morning, but there is a sallowness about the face; no headache; thirst remains; tongue white, with brown centre; breath offensive; respiration taken more freely, but still causes pain, which on deep breath is referred to abdomen; the pain immediately under where the leeches were applied is better, but although less acute, appears more diffused, and is felt on pressure to the left of umbilicus; a degree of tension and resonance over abdomen exists; urine is now clear, healthy looking, does not coagulate by heat; pulse has sunk from 120 to 108, and has a freer character. A few more leeches were applied over the abdomen during the day, and poultices continued; also calomel and opium every four hours, with effervescing medicines. In the evening I again visited with Mr. Key, and as the bowels had not been relieved since the accident, and he had the feeling, especially about the colon, of being loaded, a mixture of salts, magnesia, and manna, in peppermint water, was ordered every four hours; at this time, and since last leeching, the general pain and symptoms had improved, and the pain of shoulder had disappeared.

26th.—Has passed a restless night; had paroxysm of pain two or three times during the night; is able this morning to turn a little towards right side; the skin is warm, and covered with a greasy perspiration; the face, and whole surface of body, has a *sallow* aspect; conjunctiva yellowish; not so much thirst. Tongue has a white moist fur; breath rather offensive, not the result of mercurials. Respiration is taken freely, but causes pain about the liver when deep; not so much pain on pressure over the abdomen, but on deep pressure pain is evidently caused, chiefly along the margins of the lower ribs of right side, towards umbilicus, and over same side of abdomen; very little on opposite side; abdomen not quite so distended. The aperient medicine has acted three times, causing much uneasiness; motions relaxed, rather light coloured; urine moderate in quantity, clear, and deepish coloured. There is general clearness on percussion over chest, and free respiratory murmur, except from right mamma to margin of ribs, which is quite dull, and no breath noise exists; at margin of ribs this is succeeded by resonance, which in greater degree is general over abdomen; at epigastric region it is, however, quite dull.—Cont. Fotus et Catapl. Lini.; ℞ Hyd. Chlor. gr. j.; Extr. Hyos. gr. ij. bis die; ℞ Magn. Sulph. ʒj.; M. Carb. gr. xv. ex Julep. Menth. 4tis horis. Has been low and desponding during the day. Pulse 84, soft; skin moist; soreness of right side is felt on deep inspiration and pressure; the last is borne better. Tongue white, rather inclined to be dry; good deal of restlessness; bowels once open.—℞ Hydr. Chlor. gr. ij.; P. Doveri, gr. viij. ft. pulv. h. s. s.; ℞ Ol. Ricini, ℥ss. primo mane crastina.

27th.—Has passed a somewhat restless night; passed one motion and water, first dark coloured and lax; the surface of body is warm and moist; yellow tinge pretty general over it; conjunctiva more deeply tinged. Tongue white and clammy; no headache; respiration easy; when deep, it still causes pain over parts as before; turns better on right side, but complains during this of pain of loins, liver, region, and back of right side of chest; abdominal distension and resonance as before; pulse 84.—℞ Mist. Pot. Citrat. efferves. 4tis hor.; ℞ Pil. Hydr. gr. j.; Extr. Hyos. gr. iss. c. sing. dos. mist. Been low all day; pulse 84, occasionally intermitting; disposition to relaxation of bowels; in other respects the same.

28th.—Has passed a restless night; been up several times on account of the bowels, which seem irritated, and griping pains over abdomen, especially about umbilicus, precede each motion, which consists of little more than mucus, mixed with blood of a bright colour, and very offensive; pressure is borne over abdomen, better certainly on the right side; skin cool, soft; jaundice tinge deeper, especially about eyes and face; tongue whitish, moist, with red tip; urine decreased, but clear; deep breath does not cause much pain; gets in and out of bed by himself to night-pan, but has once or twice felt faint after such exertion; pulse 64, depressed, intermitting every two or three beats; mental depression.—Cont. Pilul.; Pulv. Doveri, gr. v., c. Muc. Acac. Mist. Sal. 4tis vel 6tis horis.

6 A.M.—The purging has continued at intervals; little passed but mucous bright blood during day; last evacuation more feculent; pulse oppressed, and intermitting at 60, during day, is now 84, regular, and there is more cheerfulness. Two Starch Enemata, with Tr. Opii, ʒss. have been given; pressure borne better.—℞ Hydr. c. Cret. gr. j.; P. Doveri, gr. iv. ter die. —℞ Mist. Camph. ℥j. c. sing. pil.

29th.—Had passed better night, but several times disturbed with the evacuations; surface of body cool; tongue moist, with brown fur in middle; breathes well; slight sickness; pain still exists on pressing epigastric and hypochondriac regions, and causes nausea; motions still mucous and bloody, but less so, and more feculent; dulness of right infra-mammary region remains the same; opiate enema again repeated. Towards afternoon a troublesome hiccup came on, almost constantly recurring, and causing great distress and increase of pain; a mustard poultice afforded but slight relief. In the evening did not appear so well; had been sick, and complains of parts rather more on pressure; bowels moved two or three times; hiccup still continues; evacuations getting more feculent; pulse 90; skin a little feverish.—Appl.

Empl. Lyttæ lateri; Cont. Pilul. c. Mist. Efferves.

30th.—Restless night, on account of the hiccup, which has lasted, except at brief intervals, when he got a little sleep; bowels been two or three times open; motions more feculent, but lax. This morning there is rather less yellow tinge about hands and face, but the general surface and conjunctivæ are still deeply tinged, as also the serum from the blister: countenance cheerful. Tongue white, clammy; much thirst. Respiration, when ordinary, is easy; when deep, it causes pain and hiccup, as also do change of position, taking food, &c. Pulse 90, pretty good. Epistaxis has occurred two or three times; abdomen generally does not appear tender; pain of parts before mentioned still exists on hiccup, but independent of this, is less; urine pretty healthy; pulse 84.—℞ Mist. Efferv. c. Acid. Hydrocy. gtt. iij.; Ex. Opii Sed. ♏v. 6tis horis.—℞ Hydr. c. Cret. gr. j. ter die. The hiccup continued, but at longer intervals, during the day, with slight vomiting; pulse 94; in the evening passed a motion, consisting of nearly half a pint of dark grumous blood.

31st.—Has been out of bed six times during night; motions consisting of dark coloured bloody fluid; a little feculent matter present in the last; has had no hiccup during the night or this morning, but there is disposition to sickness; skin cool; bilious tinge same over body, decidedly less about extremities; countenance cheerful; tongue dry, and brown down middle; white and moister at sides; respiration good; no pain; fancy the dulness over liver does not extend so high. Pulse 84, moderate power.—Cont. Medic. ut antea. Has had no hiccup during day; bowels open several times; motions are more feculent; met Mr. Key; a favourable prognosis given.—℞ Hydr. c. Cret. gr. j. ter die.—℞ Mist. Camph. ℥j. c. Sp. Ammon. Arom. gtt. x. 4tis hor.

Sept. 1st.—Has passed but an indifferent night; bowels acting six times, motions brownish, feculent, unaccompanied with pain; a desire, yet inability, to pass water was complained of last night; no distension of bladder felt, but was not satisfied without introduction of catheter, which proved the bladder nearly empty, probably it arose from irritation of blister: anodyne enemata and diluents were ordered, but it was some hours before the strangury was relieved. Tongue during to day has been rather more coated, and mouth clammy.—Rep. Hydr. c. Cret.; Hydr. Mist. Efferv. c. Ammon. 6tis horis. The bowels during the day were more relaxed, motions offensive, brown; urine sparingly secreted; a good deal of restlessness towards evening.—Pulv. Doveri, gr. x. h. s.

2d.—Has passed a restless night, with a little wandering; bowels open often; gets out and in of bed himself; surface of body more deeply tinged with bile; mouth clammy, and sordes about teeth; tongue with central brown fur; chest as before; abdomen distended and flattened, no particular tenderness except on deep pressure over hepatic region; bowels still relaxed; no hiccup; inclination to sickness; urine sparingly passed; a good deal of tremulous movement at times about the hands, with catching of thumbs, especially of right hand; face looks pinched; pulse 84, easily compressed; action of heart regular, first sound somewhat labouring.—Allowed mutton broth, &c. Mist. Efferv. Ammon. et Mist. Camph.; Hydr. c. Cret. gr. ij.; P. Doveri, gr. iij. ter die. · Empl. Lyttæ regioni hepatis, as he felt more uneasiness about side. In the evening, for the flatulent distension of abdomen, a turpentine liniment ordered.

3rd.—Has had a restless night; two motions of thin feculent matter; appearance to-day not quite so good; had a little delirium during the night, and is inclined to wander a little in thought if left to himself; hands and thumbs, especially the right, affected with twitchings; tongue dryish, with brown streak; mouth clammy; blister discharges freely; serum quite yellow; pulse 84, moderate power, but soon compressed; no intermission; abdomen distended, but not particularly tense; very tympanitic all over; no marked pain on pressure, or sickness; hands and feet warm; passed a little clear urine.—℞ Potass. Citr. Efferv. c. Ammon. Carb., gr. v.; et Sp. Æth. Nitr. ʒss. sing. dos. 4tis hor.—℞ Ung. Hydr. Fort. ʒj. infric. axill.—℞ Spr. Terebinth. appl. abdomini; beef-tea, &c.

At 1 P.M.—Bowels been relieved once during the morning; felt faint after exertion of getting up; desponding, restless; pulse the same; has taken beef tea without sickness. It appears that two hours after this visit, no difference of symptoms being evident, while his head was being raised to give him some beef-tea, he threw about his arms as if resisting its administration; he was then seized with general convulsions, and ceased to breathe within five minutes after this attack. An examination of body was made 26 hours after death.

The surface of body retained its deeply jaundiced hue; the abdomen only could be examined. A considerable layer of fat covered the abdominal muscles. On opening the peritoneum, a small quantity of clear yellowish serum, quite free from flocculi of lymph, escaped; and on further examination, about a pint or so was sponged out or escaped, towards the latter part slightly coloured with blood. The intestines, both large and small, were considerably distended with gas, but smooth and shiney on surface, and without any deposit of lymph, or trace of inflammation. The parietes of abdomen were also equally free from such, but towards margin of ribs a few spots, as of an ecchymosis were seen *under* the peritoneum, but not larger than a shilling. The liver was much enlarged, and while getting out some soft adhesions between its convex surface and the diaphragm, were easily separated, and were evidently of recent origin. When taken out, a laceration was seen, extending across its right lobe, at about the upper third, and directed downwards and inwards; the anterior margins of the wound were very nearly, but not quite, in apposition, and were connected by recently effused lymph, which was somewhat easily broken through; towards the middle of this line, a portion, about the size of half-a-crown, had been adherent to diaphragm (the adhesions separated on getting out the viscus); the laceration extended deeply into the lobe, towards its posterior part, and as it passed backwards, the sides diverged, and were separated by clotted blood; at the backward part, a collection of fluid and clotted blood existed, which appeared not so deep coloured, but of a sanguineo-purulent character; the tissue of the liver around this appeared soft and friable, while other parts of the viscus, especially the part over the laceration, appeared harder and firmer than natural; the opposite lobe appeared uninjured; no connexion of this with the intestines was found; kidneys large and flabby; bladder healthy, moderately distended. No other lesions of any importance were discovered; decomposition during the two following days was very quick.

Not having had the time or opportunity to refer to similar cases, the very brief observations I have to offer will especially refer to the case I have just related. The actual manner of the injury I think but indistinctly proved; nor do I regard this of much importance, as either of the causes mentioned would have been of itself sufficient. While the exceedingly severe and long protracted state of collapse could only be viewed as an indication of some serious internal injury, the locality of the pain, with other symptoms, led to a pretty correct diagnosis (as was afterwards proved) of the particularly injured viscus, although I must confess the after-amendment in the case led me to consider I had greatly overrated the extent of mischief. I will just refer to one symptom,—*the pain of shoulder*,—a symptom more distressing and more complained of than any other during the first few hours. I think there is every reason, from the non-appearance at the time, and afterwards, of any bruise, the absence of any trace of fracture or dislocation, its entire and sudden disappearance, to set it down as a purely sympathetic pain; and we are all well aware how often, in many diseases of the liver, especially implicating its right lobe and convex surface, this pain of shoulder forms a prominent distressing symptom, and how continually it is brought before our notice in mere *functional* affections of this important viscus. The escape of blood once only in the urine, and its total cessation in the next excretion, I think clearly proves its dependence on concussion and congestion, rather than on actual injury of kidney.

The jaundice in this case may, I think, be viewed as chiefly due to mechanical obstruction, rather than inflammatory action. The large mass, separated from all communication with the larger biliary ducts, still forming its secretion, without the means of pouring it into the duodenum, and thus leading to fatal jaundice, while the other portions were enabled to get rid of their secretion through the proper channels, as was proved by its constant presence in the colour of the fæcal matter. We had, however, sufficient evidence in the tinge of skin and conjunctivæ, that a considerable portion was mixing in the blood, and it may be worth inquiry how far this poisoned blood modified other symptoms; for, on the day following the injury, as might have been expected, evidences of inflammatory action were set up, or at least in progress, and I doubt much whether the slight depletion had recourse to would have sufficed *per se* to have subdued such overaction. We know, however, the general effects of the circulation of bilious matter in the blood—the great mental and bodily depression—the preternaturally slow and laboured action of the heart and pulse—the prostration of power—the loss of nervous energy. I think it, therefore, not improbable this state induced may have had some influence over, or prevented the continuance of, more active symptoms.

The hiccup, another not unusual symptom of affections especially of the diaphragmatic surface of the liver, did not appear until about the sixth day after the injury, and, although severe and urgent while it lasted, was not of long continuance. Did this symptom, so often an accompaniment of inflammatory action about the surface of the diaphragm and liver, mark the period of formation of the soft adhesions found connecting the diaphragm and liver; or did it depend on some temporary increase of upward pressure only, and become relieved by the evacuation of the grumous blood, as it began to disappear when this took place?

Although probably the muco-sanguineous discharges from the bowels were chiefly due to the remedies employed, yet from the facility with which they were brought on, and the frequent attacks of epistaxis, there probably existed a more or less congested state of the mucous membrane throughout: in regard to the large discharge of blood on the evening of the 30th, viewing as I then did, the case as one of general concussion, with congested state of liver, I had hoped it would have proved a salutary or critical discharge; for it will be noted that not only the hiccup, until then distressing, ceased about this time, but the countenance and manner became cheerful, the jaundice less, the dulness of the right side of chest diminished, and the patient expressed himself relieved. Not being able to detect any direct communication between the intestine and the liver, I am still inclined to think it must have suddenly regurgitated from the portal vessels, and, but for other conditions present, might have relieved or removed the congested state of liver.

On the day of the decease, and, indeed, on the previous one, the symptoms were not so good; there was evidently increasing want of power, and the spasmodic twitchings evidenced commencing irritation of the nervous centres; but as there still existed a considerable degree of power, I was somewhat taken by surprise at the sudden termination of the case; and, although from an examination of the abdomen only, it would be unfair to give a very decided opinion of the actual cause of death, I feel most inclined to think the sudden change of position (it was but trifling) brought on a sudden fatal syncope, for there seemed no sudden gush of hæmorrhage or else to account for it. It must have struck many in reading over the post-mortem examination, how little sign existed of extravasated blood and peritoneal inflammation succeeding so severe an injury; and granting it probable that the pressure of the ribs, diaphragm, and adjoining viscera, would have tended to retain the wounded parts in pretty perfect apposition, still I cannot think it even possible this could have been of a nature sufficiently perfect to have prevented, in so large a laceration, a copious extent of hæmorrhage at first, and probably fatal collapse; add to this the varied positions of my patient in which he must have been placed or placed himself before his arrival home, must have continually interfered with the juxtaposition of the parts, however perfect. How, then, are we to account for this absence, I may say of any hæmorrhage, within the abdominal cavity, and the trifling amount there was of inflammatory effusion? It has since been suggested to me (I think by Dr. Hughes) that probably the layer of the peritoneal covering was not quite divided, and which, while it retained the parts in apposition, prevented any of that extravasation which must otherwise have taken place. I confess, in the hurry of the post-mortem examination, this part escaped my attention, which I now regret; but I think I recollect there was more resistance in separating the divided edges than the mere adhesion of such recent effusion would account for. And this view seems to me to explain better than any other, not only certain appearances, as well as the want of many urgent symptoms in the case, but why the hæmorrhage at first was not sufficient to be fatal—why so little inflammatory action followed—and why life was so long protracted.

Before I conclude, there are one or two other points more which strike me as by no means so trifling as one at first might think.

1st. The necessity of our giving a most guarded opinion of the probable issue of such cases to the inquiries of anxious friends. Alarming as were the first symptoms of this case, yet when we found in a day or two all fever ceasing, local tenderness abating, the pulse assuming a slow and regulated beat, the patient not only moving about and sitting up in bed, but able to get in and out without much actual inconvenience—could we have expected such extensive lesion was lying hid, or a fatal termination? Appearances were so promising only three days before his death, that convalescence, although, perhaps, a tardy one, was only thought of.

2nd. I think this case shows the necessity in doubtful injuries of internal parts, of abstaining from all unnecessary pressure and manipulation: the desire must exist in all of us, and it is highly laudable and proper it should be so, to make ourselves acquainted with all the bearings of our patient's case; but I cannot but think much injury very likely to occur, and Nature's efforts towards a cure interrupted, *if not destroyed*, by a too officious meddling and pressure about such an injury as that related. And I can conceive few things more awkward, and for which a medical man might be unjustly blamed, than a sudden syncope and death occurring during his manual examination, especially if the patient had appeared improving.

REMARKABLE CASE OF DISEASE,

ATTENDED WITH

DISPLACEMENT OF THE STOMACH.

By Albert Owen, Esq.
Surgeon, Aylesbury, Bucks.

On the 31st August I was called in to see a servant-maid, in a lady's family, of a pale, pasty countenance, with spare habit, said to be thirty years of age, although apparently ten years at least older. She complained of most severe pain over the entire surface of the abdomen, which had commenced five days previously, with an uneasiness about the hypogastric region, during which time she had had complete obstruction in the bowels. Upon placing my hand over the hypogastric region, I came in contact with a large, prominent swelling, about the size of a fœtal head at six months; it was moveable, and circumscribed, apparently without any connection to the surrounding parts; in fact, I could push it from one iliac region to the other, and upon removing my hand it would resume its former situation in the hypogastrium: it was extremely painful and tender, of a doughy consistency about the centre, but thick and hard around the margin; she had not observed any swelling whatever till the five days previous, when the bowels commenced to be confined, but had noticed that it had much increased in size during this time. Leeches and warm poultices were applied to the part, which seemed somewhat to relieve the pain, and my attention was then more particularly directed towards removing the constipation; but notwithstanding the employment of all the means known or practised in such cases, four days elapsed without the least success. The swelling continued to enlarge, the integuments became attached to it, and assumed a very active inflammation; rigors set in, and matter was to be detected seated rather deeply, so that I resolved at my next visit to open it with a lancet, and run all risks as to the real nature of the case. At the expiration of six hours the swelling had become perfectly emphysematous — quite tympanitic. I, however, introduced a lancet to the depth of one inch and a half, when there escaped first of all a large quantity of most fœtid gas, followed by above half a pint of purulent matter. The swelling of course after this discharge very much subsided, leaving a hard circumscribed margin about the thickness of one's little finger. I then resumed my attempts to get the bowels opened, presuming that the tumor had offered a mechanical obstruction, and after the employment of a turpentine enema, twice administered, a large quantity of feculent matter passed, with about a tablespoonful of pus following the *last* portion or *finish* of the evacuation. The opening made by the lancet was kept free till it ceased to discharge, and then was allowed to heal. The bowels were afterwards relieved twice a week by means of the injections, always with the same appearance of pus in the evacuation: the appetite became good, and her strength seemed to return so much, that on the 23rd of September, I considered her safe to be removed in a carriage to her house, distanced thirteen miles, although the swelling was still there, and the bowels in the same obstinate condition, only to be moved by art.

My friend Mr. Stowe, of Buckingham, then took charge of the case, to whom I am indebted for the completion of this history. On the 10th October, Mr. Stowe found a prominent elastic point, near the spot where I had made the former opening, having all the appearance of another abscess. A lancet was put into it, when out spirted a lot of "bloody serum," as if a cyst had been opened: it bled freely for a few minutes. Mr. Stowe then left it with the impression that it might turn out to be some fungoid or other malignant growth; the girl's countenance became much sunk, and seemed then to bespeak as much. For some days, long shreds of lymph, like worms, came away from the bowel, similar to what one sees after irritating and long-continued purgation. Both apertures, after healing, again burst open, the integument sloughed, and the tumor began to fungate, to bleed occasionally, and to smell horribly; and so matters went on with sickness and suffering till the last few days, when food as soon as taken passed outwardly, shewing that the stomach was involved in the mischief.

She died on the 28th November, and the next day an inspection was made. The root of the tumor seemed to have sprung from the pylorus, and dragged down the stomach to the seat of the swelling, and then extended into the pelvis. It was very hard and gristly; certainly carcinomatous, and would have taken some time to dissect it out from all its attachments.

How she lived so long, and ate food till within a week, is matter of surprise. She used to say, "her food went down lower than it should do," which was true enough, for the stomach was vertical, and not transverse. And another matter of wonder is, that supposing the girl's statement to have been true, that she had not in any way ailed before the five days previous to calling me in (on the 31st August), that such a state of things could possibly have occupied only three months from the first appearance of any swelling to the termination in death.

CASE OF PROLONGED GESTATION IN WHICH THE DATE OF THE CONCEPTION WAS ACCURATELY ASCERTAINED. BY R. H. M'ILVAIN, M.D., CHARLOTTE, N.C.

The following case of gestation, prolonged to probably 296, certainly to 293 days, occurred under the personal observation of the writer. The parties are of unexceptionable character, and the statement of the husband that no intercourse was had after the night of the 4th July, may be implicitly relied on.

Mrs. ——, whose character is above suspicion, was visited on the evening of July 1st, 1847, by her husband, whose business had compelled him to reside for more than a year before in a distant state. The husband remained till the morning of the 6th of July, and then departed, and did not return for more than nine months. On the nights of 1st, 2nd, 3d, and 4th of July, there was sexual intercourse between the parties, but none on the night of the 5th or after. Shortly after, Mrs. —— considered herself pregnant, and on the 23d of April, 1848, was delivered after an easy labour of a fine healthy female child, weighing nine pounds.

Supposing impregnation to have occurred on the night of the first, as a consequence of the first coition, the duration of the pregnancy must have been 296 days; but if we suppose the last copulation to be the one from which the pregnancy resulted, the period of gestation was 293 days.

This case is interesting, inasmuch as it furnishes conclusive evidence that gestation may be prolonged to thirteen, if not sixteen, days beyond the usual period,

The large size of the child, being a full pound and a half above the average weight of female children, is a circumstance in favour of its having been carried beyond the usual period.

The mother had borne three children previously, none of which weighed over eight pounds. — *American Journal of Med. Sciences*, July 1848.

MEDICAL GAZETTE.

FRIDAY, DECEMBER 22, 1848.

ON the announcement of the reappearance of cholera in the metropolis, sundry imputations were thrown out against the Royal College of Physicians, to the effect that they had allowed others to take the lead in suggesting to her Majesty's Government the steps to be pursued. How far this accusation was justified, will appear from the subjoined correspondence, to which, as an act of justice to the College, we feel bound to give due publicity.

A Cholera Committee was appointed by the College on the 3rd October, and a report was prepared and transmitted on the 12th of that month to SIR GEORGE GREY, with the following letter from the President:—

"Dover Street, October 12th, 1848.

"SIR,—Having learned at the Home Office that your return to town is uncertain, I forward to you, without delay, the enclosed Resolutions, and, as I have not the advantage of a personal communication, I must be allowed to avail myself of the present opportunity to offer a few remarks.

"As soon as the alarm of impending cholera had spread through the town, it was felt necessary by myself and the Censors, to constitute a Committee of the Physicians of our great Metropolitan Hospitals, together with certain other eminent persons; and I trust you will regard the enclosed list as embodying the medical skill and experience of the country. This Committee will meet three times during the week, in order to collect information, and, if necessary, to suggest measures for protecting, guiding, and sustaining the public under such a heavy infliction.

"It is, Sir, most unfortunate that the public mind should have been distracted, and general confidence shaken, by the dissemination of adverse and conflicting opinions, and diametrically-opposed recommendations and directions, by the several authorities to which the public were bound to look for advice; that while the Board of Health repudiates the idea of contagion as a mischievous fallacy, the Privy Council issue orders for the institution of quarantine; that while the former, again, forbid, as dangerous, vegetable food, the College of Physicians consider such a change of diet as the adoption of that advice would involve, as calculated to deteriorate, rather than to improve the health, and consequently to increase the liability it was intended to avert.

"I trust, Sir, you will receive these observations in no other light than that of a desire to call your attention to a subject of the highest importance; amidst your numerous and anxious duties, it is not to be supposed, nor indeed expected, since a Board of Health has been appointed, that you should have deemed it necessary to enter into all the details of so difficult a subject.

"I have the honour to be, &c. &c.,
"JOHN AYRTON PARIS."

We at the time pointed out the mischievous effect likely to follow from the contradictory nature of the various notifications issued by Government, and we are glad to find that the view then taken by us has received so strong a corroboration from the official remonstrance contained in the above letter.

The subject was taken up by Lord Carlisle, as President of the General Board of Health, and led to the following letter, which was addressed to the President of the College of Physicians:—

"Castle Howard, October 17, 1848.

"SIR,—As Chairman of the General Board of Health, I hope to be excused for the liberty I take in addressing myself to you; but I have learned with concern that some suggestions contained in a recent notification issued by the Board on the subject of Asiatic Cholera have met with the disapproval of the College of Physicians.

"I would observe, in the first place, that the General Board of Health, in its ordinary operation, and with the exception to which I will presently refer, is mainly a Board of Works for sanitary purposes, for the prevention of disease, as far as it may be effected by such works, and its members do not propose, as far as they can avoid it, to enter into any questions of the treatment of disease. These they would gladly leave to the representatives and ornaments of the medical profession. But, in the second place, I have to advert to the exception I have named, and to the apparent deviation on the part of the Board from the course I have described. Under the Act of last Session, for the prevention of contagious and epidemic diseases, the General Board of Health are, upon the arrival or approach of such a disease as the Asiatic Cholera, entrusted with functions which under the previous act were exercised by the Privy Council. Even under these circumstances, the Board would be extremely reluctant to trench upon any department in the more legitimate possession of others; but they were daily assailed by representations that people were waiting to hear from them what, upon the arrival of the cholera, they ought to do. The notification in question was drawn up by the medical member of the Board, who has given years of unremitting inquiry to this special class of subjects; in so far as it received any modification, it was upon consultation with other gentlemen of the medical profession, who gave the kindest and most disinterested attention to the matter, and whose names would be a guarantee for the value of their opinions. The Board of Health were not, at that time, informed that any other public body were moving in the business; no time could be spared; and they conceived themselves to be, even at the risk of some mistakes and deficiencies, under a moral obligation to impart to the public what appeared to them to be the preponderant evidence with respect to the means of prevention. They hoped, too, they had guarded against misconception, by occasioning it to be inferred that they addressed themselves mainly to those who were removed from the opportunities of special advice, and by distinctly abstaining from prescribing for the advanced stages of the disease, on the ground of their hope that, in every such case, recourse would be had to regular professional advice.

"With these feelings, and with respect to the future, I have only to add, that the General Board of Health will receive with respect and deference any observations, suggestions, and corrections respecting their own views, with which the College of Physicians may be pleased to favour them; they will gladly use any means at their disposal for conveying to the public any information and advice which may be obtained from so high a source; and even, if at any time the same should not be in accordance with the opinions they have been led to adopt, they will still feel themselves bound to insert all such communications in their official circular, and let them have the weight which must attach to the views of such an eminent body.

"I must further request allowance for the hurry and imperfection of the present communication, which is written on a day when my attention is otherwise painfully occupied; but I was anxious that no time should elapse without an attempt to remove any misapprehension which may have unfortunately arisen, and to tender an explanation which may be justly due.—I have the honour to be, sir,

"Your very obedient servant,
"MORPETH."

This perhaps was the most respectable defence of the proceedings of the Board of Health which could be offered under the circumstances; but while it leaves the evils arising from the adoption of half-measures untouched, it opens to view a new feature in the case. The medical profession has no longer to deal with a Board of *Health*, but with a Board of *Works* "for the prevention of disease, as far (?) as it may be effected by such works." The recent appointment of Mr. Smith, of Deanston, corroborates this statement, and renders the misnomer in the Act of Parliament still more apparent. This gentleman is, we are informed, appointed a superintending inspector, with the sanitary object of applying the refuse of towns to the improvement of agricultural production. This is all very well; but we think that a medical inspector would confer greater benefit on the public by suggesting means for preventing the spread of disease,—the employment of town refuse as manure being at the present time a matter of only secondary importance. The fact that Mr. Smith is appointed to act under a Board of *Works*, removes all difficulty; but then we arrive at the conclusion, that we have as yet no Public *Health* Bill, and that in the next session, the question of sanitary legislation must be re-opened. Dr. Paris returned the following answer to this apology, on the part of the President of the Board of Works, for intermeddling in medical matters:—

"Dover Street, October 23d, 1848.

"My Lord,—I have to acknowledge with many thanks your Lordship's communication of the 17th instant, and to express, on the part of the College of Physicians, a gracious acknowledgment of the courtesy and consideration with which you have been pleased to recognize and appreciate the just authority and influence of that body in all matters relating to medical polity and legislation.

"On public grounds I most sincerely join in the concern expressed by your Lordship, that the suggestions contained in a recent notification issued by the Board of Health on the subject of Asiatic Cholera, should have been in direct opposition to opinions unanimously entertained by the College of Physicians.

"Your Lordship observes that the General Board of Health, in its ordinary operation, is mainly a Board of Works for sanitary purposes. To question the wisdom with which the Board continues to discharge such functions, would very properly expose the College to the charge of an officious and unjustifiable interference in matters alien to their studies and duties; but the objections of the College, as your Lordship will perceive, rest exclusively upon the *medical* directions published by the Board over which your Lordship presides; and when I state that any professional advice would have issued with far greater propriety and effect, under the advice and sanction of the chief medical institution of the kingdom, your Lordship will admit that I do but adopt your own opinion, for you would gladly leave such advice to the representatives of the medical profession, unwilling to trench upon any department in the more legitimate possession of others.

"Your Lordship states that the Board of Health, in drawing up the directions, or advice, contained in the notification in question, was assisted by gentlemen of the medical profession whose names would be a guarantee for the value of their opinions; upon which I have only to observe, that persons who consent to give opinions upon so momentous a subject, ought, at least, to be prepared to incur the responsibility attached to them.

"There is one passage in your Lordship's letter which I feel bound to notice, as it may be supposed, indirectly, to inculpate the College of Physicians, and to raise a suspicion that it had not come forward with the energy and promptness commensurate with the importance of the occasion: your Lordship observes that the Board of Health were not informed that "any other public body were moving in the business." Allow me to observe, my Lord, that until the present instance, I believe without any exception, the Government, in all great medical questions, has uniformly called upon the College of Physicians for its opinion and co-operation, and I feel satisfied, that, had the Board of Health so acted upon the present occasion, the College would cheerfully have responded to the call.

"I have the honour to enclose a copy of resolutions passed by a Committee of the College, and transmitted to Secretary Sir George Grey, and I would observe that these resolutions are still under consideration, with a view, should it so appear expedient, to amplify, or otherwise to modify them, and that I shall have the honour of forwarding to the Board of Health a copy of the same at the earliest opportunity.—I have the honour to be, my Lord,

"Your Lordship's obedient servant,

"John Ayrton Paris,

"President of the Royal College of Physicians."

The resolutions of the College were sent to the Board, and the result was, that a notification, much modified and improved, was issued under the superintendence of the medical member attached to the Board of Works.

There is one circumstance in this correspondence which calls for especial notice. It shows that the Royal College of Physicians have been watchful of the rights and claims of the medical profession, and that they were actually remonstrating with the Government on the proceedings of the quasi-Medical Board at the very time at which it was alleged they were holding themselves back with selfish indifference. The reply of Dr. Paris is on this part of the case most satisfactory. It is beyond all doubt the duty of Government to call upon the College for its advice and co-operation in emergencies of this kind. Such a practice has been followed in all European countries where cholera or other epidemic diseases have appeared, and we believe hitherto in our own, except on the present occasion. The suggestion of Lord Carlisle, that the College had not come forward with energy and promptness, is therefore without foundation. The Government must or ought to be the first to know when the emergency calling for this co-operation arises; and in place of issuing mock-medical directions under a Board of Works, it should seek from the highest medical institution in the kingdom, that advice and information which are necessary to give confidence to the public mind. By such a reasonable proceeding, it would at any rate avoid the disgrace of issuing diametrically opposed recommendations and directions.

* * *

A VERY serious error has been pointed out by Mr. Lawes, in his edition of the Public Health (Works') Act, which alters materially the meaning of one of the sections, and affects to a certain extent members of the medical profession. In all copies of the Act, issued previously to the 9th of November, including that which is now before us—the 40th section, giving a power to Local Boards to appoint an Officer of Health, runs thus:—"And be it enacted that the Local Board of Health may from time to time, if they shall think fit, appoint a fit and proper person, being a legally qualified medical practitioner or member of the medical profession," &c.; whereas it should be, "or *a* member of the medical profession." The legal effect of this error by omission, would be to exclude from such appointments all members of the medical profession who were not at the same time "legally qualified" to practise in England and Wales. In the text of the engrossment, *i. e.* in the genuine act, which has received the sanction of the legislature, the article *a* is inserted, by which, therefore, the appointment is thrown open to all members of the medical profession, whether graduates of any Scotch or Irish university, although they have not legally qualified themselves to practise in this country, by procuring a license from the Royal College of Physicians, or the Apothecaries' Society.

Practically, the omission may not have been productive of mischief, because as yet but few of these appointments have been made, and the claims of Irish and Scotch practitioners have not been disputed; but a mistake of this kind in a public Act is, nevertheless, deserving of severe censure. "Every copy of the Public Health Act which was issued between the 31st of August and the 9th of November, was incorrect; and considering the general impatience to ascertain its provisions, the number of these copies must have been very great."* It would be only just that these erroneous reprints should be recalled, and genuine copies gratuitously supplied in their place.

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* Times, December 13th.

THE number of deaths registered during the week ending on Saturday last, was 24 below the weekly autumnal average, shewing a decrease of 16 on the preceding week. The fatal cases of cholera were reported to be 29.

The cases and deaths from malignant cholera in the metropolitan districts, officially published since our last number, have been as follows:—On the 14th inst, two cases, and two deaths; on the 15th, six cases, and one death; on the 16th, five cases, and three deaths; on the 18th, five cases, and three deaths; on the 19th, nine cases, and two deaths; and on the 20th, two cases, and two deaths.

The total cases and deaths in Great Britain up to the 20th inst, are given in the subjoined table:—

	Cases.	Deaths.
London . .	496	256
Provinces .	248	131
Scotland . .	1935	866
	2679	1253

The deaths it will be seen are to the cases in the ratio of nearly one-half, or *fifty per cent.!* It must be admitted that such a result affords but little ground for congratulation as to the influence of medical treatment. We intend on an early occasion to lay before our readers an analysis of all the medical pamphlets and essays on cholera and its treatment, which have been published since the second appearance of the disease among us. It would be satisfactory to find that less was written, and more done. Persons are attacked and die under this disease in Great Britain, in nearly the same proportion as in Turkey, Egypt, and in some of the Russian provinces where medical practitioners were few, and in general only remarkable for their ignorance.* How is this to be explained, except by admitting that the disease is the *opprobrium medicinæ*, and that no successful method of treatment is yet known. In spite of the conflicting plans pursued, we suppose we must consider that some good is done by art in aiding the efforts of Nature, and that medical practice is of some benefit by preventing the deaths from exceeding the ratio of fifty per cent.! On one circumstance, we have, however, great reason to congratulate ourselves. Although the deaths to the attacks have been hitherto as numerous as in Moscow, and more numerous than in Orenberg, the number of attacks, compared with the population, has been exceedingly small,—a fact which has tended to dispel much of the alarm that existed in the public mind on the second appearance of the disease.

Reviews.

The Cyclopædia of Anatomy and Physiology. Edited by ROBERT B. TODD, M.D., F.R.S. Part XXXIII. Longman and Co., Sept. 1848.

[Continued from p. 588.]

THE important article by Dr. Reid, on *Respiration*, which was commenced in the last, is completed in the present number of the Cyclopædia. In the following analysis we shall endeavour to place before our readers the more recent and important inquiries into the extensive subject of which it treats.

Dr. Reid sets out by studying the constitution of the atmosphere, both in its free state and when dissolved in water. The proportion of the three principal ingredients of the atmosphere—oxygen, nitrogen, and carbonic acid gas, especially the last—is not quite uniform. The air immediately over the surface of the sea, and that over stagnant ponds, contains a somewhat greater proportion of oxygen than that over the earth or the body of the sea. The quantity of carbonic acid gas varies considerably, especially in towns and houses, the proportion being greater in towns than in the country. The quantity is also very much increased in crowded rooms. The air of a room containing 50 candles and 500 people, held 1 part of carbonic acid gas in 100 parts; and that of one of the sleeping apartments of the Salpétrière contained 8 parts in 1000, instead of 1 in 2000.

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* Out of 54,000 attacked in the Russian provinces in 1830, there were 31,000 deaths. At Moscow, *one-half*, and at Orenberg *one-fifth* only of the cases proved fatal.—*Copland*.

Gases held in solution in water.

Quantity of air in volume.	Composition of the air per 100 parts. Oxygen	Nitrogen	Carbonic acid	Sulphuretted Hydrogen
In fresh water from ^{1} th to $\frac{1}{30}$th	32 .	65 .	2 to 4	
In Sea water from $\frac{1}{30}$th to $\frac{1}{45}$th	33 .	57 .	9 to 10	a trace.

The proportion of oxygen increases during the day in fresh water containing algæ, and in salt water—

Oxygen in 100 parts of the air.

	Morning	Mid-day	Evening	
In a green fish-pond	25	48	61	The carbonic acid suffered a decrease.
In Sea water	40		54	

The increased quantity of oxygen in the air, immediately over stagnant pools and sea water, is doubtless generated in the water. Oxygen may be and is continuously supplied to the air from this and other such sources: however, as Dr. Reid remarks,—

"To suppose that all the animals on the surface of the earth could, by their respiration, deteriorate the air to the extent of removing in a century the 8000th part of the oxygen in the atmosphere, is to make a supposition very much beyond the truth." (p. 327).

Respiration of plants.—When exposed to sunshine, the green parts of a plant decompose the carbonic acid in the air, seize upon the carbon, and liberate the oxygen. In the dark, the same parts exhale carbonic acid. A quantity of nitrogen is given off along with the oxygen.

While the green parts of plants give off oxygen during the day time, those parts of the plant not green, as the roots, the flowers, the seed in a state of germination, absorb oxygen from the air, and give out carbonic acid even in the sunshine. Some consider that this is the true respiration, and that the fixation of carbon, and evolution of oxygen, by the green parts of plants, is a true digestive process.

"*Respiration in animals.*—The function of respiration varies greatly in activity, and in the external form and position of the apparatus by which it is effected, in the different divisions of the animal kingdom. In all animals, except some infusoria, the nature of the chemical changes between the atmospheric air and the nutritious juices is pretty uniform, and essentially consists in the evolution of carbonic acid gas and the absorption of oxygen.—Evidence preponderates in favour of the opinion that a small quantity of azote is exhaled at the respiratory organs.

"The function of respiration in animals includes two distinct processes—the evolution of one gas from the nutritious juices, and the absorption of another; and while the former is an act of excretion necessary for the maintenance of the purity of the nutritious juices, the latter is an act of absorption necessary for their proper elaboration. These two acts are of equal importance in supporting the vitality of the organism—are so closely linked together, and are so reciprocally dependent for their continued action, that they have been regarded as belonging to the same function, though in a logical point of view they are parts of two distinct functions—viz. 1st, the absorption by the organism of new materials from the surrounding media for completing the elaboration of the nutritious juices; and 2dly, the excretion from the organism of those substances which are of no further use, and would even prove prejudicial if retained. Many of the definitions given of the respiratory process are liable to strong objections in consequence of its compound character not having been kept strictly in view.

"Wherever the nutritious juices of organized bodies are separated from the air by tissues permeable by oxygen and carbonic acid gas, the function of respiration may be performed.—In the higher animals, where this function is performed in greatest perfection, the apparatus for effecting it is very complicated and extensive. On the other hand, in some of the most simple forms of animal life, the function of respiration is effected by the external surface, and they have no special organ for exposing their nutritious juices to the action of the atmospheric air.

"Numerous and interesting modifications

of the respiratory apparatus, each wonderfully adapted to the wants of the individual animal, and the medium in which it lives, and in admirable relation to its other nutritive functions, fill up the wide interval between the most complex and the simplest methods of carrying on respiration. This, like the other functions of the body, is in proportion to the energy of its manifestations —more concentrated upon the individual organs, chiefly or entirely constructed for this purpose; and it thus becomes more and more specialized as we ascend in the zoological scale" (p. 329).

Apparatus for renewing the air in the lungs in the human species.

"As the ribs of the human species differ in length, in the degree of their inclination to the spine, in the form and extent of their curvature, in the manner in which the anterior extremities of their cartilages of prolongation terminate, and in some other anatomical points which must influence their mode of action,—the phenomena attending the elevation of the ribs are not the same over all parts of the chest, but it will be sufficient for our present purpose to state the general effects of these movements." (p. 233).

When stating the general effects of the respiratory movements, Dr. Reid gives the following note on the action of the intercostal muscles—a subject now exciting some interest.

"The mode of action of the intercostal muscles has been a subject of discussion since the time of Haller, many entertaining the opinion of Haller, that both the internal and external sets act simultaneously as muscles of expiration; while others, again, assert that one set act during inspiration, and the other set during expiration. Those who maintain the last opinion are not agreed among themselves as to what set act as muscles of inspiration, and what as muscles of expiration. The mode of action of these muscles has lately been carefully examined by MM. Beau and Maissiat, and Mr. Sibson (Phil. Trans., 1846), and the two former (Archives Generales de Médicine, 4 ser. tom. 1 p. 268, 1843) conclude that both sets are muscles of expiration, while the latter maintains the more probable opinion, that they act differently in different parts of the thorax. Dr. Hutchinson has also lately made some observations on the actions of these muscles in the Medico-Chirurgical Transactions of London, vol. xxix. p. 213" (p. 334).

The recent experiments of Valentin, Dr. Hutchinson, and Mendelssohn, shew that the power of the expiratory muscles is greater than that of the inspiratory. Dr. Hutchinson, whose experiments are much the most extensive, and are 1500 in number, found that the power of expiration is nearly one-third stronger than that of inspiration.

Excitors of respiration.—"The muscular movements of inspiration and expiration are, in the natural and healthy state of the body, performed without the intervention of volition, and even without our consciousness, and belong to the class of movements which have lately received the appellation of excito-motory. One of the principal excitor or afferent nerves of respiration is the par vagum, and the medulla oblongata is the portion of the central organs of the nervous system to which all the excitations of the nervous system capable of producing a respiratory muscular movement must be brought.—It is impossible to determine whether or not the pulmonary ganglionic nerves can convey inwards to the central organs of the nervous systems impressions capable of exciting the respiratory muscular movements; but that impressions capable of exciting such movements to a certain extent may be received by other nerves than those distributed in the lungs, is proved by the fact, which we have witnessed, that a few distinct respiratory movements may be observed in an animal after its lungs have been removed. That portions of the posterior roots of the spinal nerves distributed in the external cutaneous surface do not act as excitors of respiration under certain circumstances, is proved by the effects of dashing cold water on the surface of the body, especially on the face" (pp. 337-8).

The question—what are the excitors of respiration? considered by Dr. Reid in the passage just quoted, and in others which follow, is one of the most important in physiology. It is especially and practically important to the medical man in considering the right mode of treatment in all those cases in which the respiratory acts are imperfectly or irregularly performed. We agree with what Dr. Reid says on this subject of the excitors of respiration, but we feel satisfied that he does not go far enough. He proves, in the most complete manner, that the movements of respiration may be excited after the lungs are removed; he also shews that respiration may be excited by the nerves distributed to the skin, giving the familiar illustration of the effect of dashing cold water on the surface in exciting respirations.

We conceive that the nerves distributed to the cutaneous surface are not only the possible and the occasional excitors of inspiration, but that they are the principal and the almost invariable and necessary excitors of that act. It is to the cutaneous surface that the great body of the sentient nerves—of the nerves having excitor or afferent functions—are distributed. We find, that whenever the skin is stimulated, respiration is quickened—that whenever its excitability is depressed, respiration becomes slower and more irregular—and if the excitability of the skin be destroyed, as it is, for instance, by long-continued exposure to intense cold, respiration entirely ceases. It is by means of the cutaneous circulation, that the cutaneous nerves are systematically stimulated to be the excitor nerves of respiration. When the cutaneous circulation is active, respiration is quick and full; and, on the other hand, when the cutaneous circulation is depressed, the respirations are feeble and irregular. The stimulation of the skin is the great means by which the medical man stimulates respiration and every other vital function. The sentient nerves of the skin, though the principal, are not the only excitors of respiration. The par vagum, as Dr. Reid has himself proved in his very valuable experimental contributions to the physiology of that nerve, is an important excitor. In fact, any incident, excitor, or afferent nerve—any nerve of sensation—may be an excitor of inspiration; just as on the principles of Dr. Marshall Hall's great discoveries, any excitor or incident nerve may excite, through the medium of the spinal cord, reflex motions.

Frequency of the respiratory muscular movements.—The average number of respirations per minute is, according to Quetelet, at birth 44, at 5 years, 26; 15 to 20, 20; 20 to 25, 18·7; 25 to 30, 16; 30 to 50, 18·1. Dr. Hutchinson found that the majority of male adults breathe from 16 to 24 times per minute.

> "The ratio of the respirations to the pulsations of the heart are usually about 1 to 4 or 4½. In Dr. Guy's experiments, the proportion between the respirations and the pulse, have varied from 1 : 2 60 to 1 : 5·23, and whereas the pulse becomes less frequent as the day advances, the respiration increases in frequency. The proportions which the respiration bears to the pulse decrease as the pulse increases. Thus for a pulse of 54, the proportion was 1 : 3; for a pulse of 72, it was 1 : 4. The chief cause of the variation in the ratio of the respiration and the pulse is the position of the body. Thus for a pulse of 64, the proportion standing was 1 : 2·95; sitting, 1 : 3·35; and lying, 1 : 4·97." (pp. 338-339.)

The quantity of air drawn into the lungs at each inspiration, and expelled at each expiration, is very variously estimated by different observers.

Valentin ascertained that in 7 healthy males, from 17½ to 33 years of age, in ordinary up to somewhat quickened respiration, the air expended was 14·6 to 95·6 cubic inches.

During ordinary respiration Herbst found that the quantity expired during each expiration was 24 to 31 cubic inches.

Bourgeny found the quantity least during childhood and greatest during old age.

Vierhordt, on himself at rest, found the quantity to vary from 10 to 42 cubic inches.

Goodwyn, Davy, and Abernethy, found the quantity on themselves to be from 12 to 14 cubic inches.

Borelli, Dumas, Allen and Pepys, Thompson and Coathupe,—from 15 to 16 cubic inches.

Dalton found the quantity on himself to be 30 cubic inches.

It is evident that the average amount of air expired at each expiration, during ordinary respiration, in relation to the varying circumstances of age, sex, height, weight, and temperament, is not yet ascertained: indeed, such an inquiry has, in an extended point of view, scarcely yet been instituted.

The following calculations of the total quantity of air respired in the 24 hours, were made by the respective observers:—

Vierordt, at rest, respires (by calculation)	530,000	cubic inches in the 24 hours.	
„ actual average	624.000	„	
Valentin respires (by calculation) . . .	688,350	„	(398½ cubic feet.)
Coathupe	460,800	„	(266½ cubic feet.)

Quantity respired by forced expiration after the deepest possible inspiration.—The most extensive experiments by far, made with the view of ascertaining this point, are those of Dr. Hutchinson. He found that a man of

5 feet in height, expelled 174 cubic inches; and that a man of 6 feet in height, expelled 262 cubic inches by the strongest expiration after the deepest inspiration. He found from actual observation, as well as from calculation, that for every additional inch in height, 8 additional cubic inches were given out by a forced expiration. He also found that increase of weight. when it is 7 per cent. above the average and increase of age, after 35, diminishes the breathing capacity.

Bourgery, from his experiments, concludes that the relation of a forced to an ordinary respiration	is as 1 to 12	at 3 years old.	
	1 „ 10	„ 15	„
	1 „ 9	„ 20	„
	1 „ 3	„ 60	„
„ · „	1 „ ½ or ⅓	„ 80	

whence it follows, that in youth there is an immense respiratory power in reserve for any violent exertion; while in old age, the individual under such circumstances is at once out of breath.

Changes upon the atmospheric air in respiration.

Increase in temperature and bulk.—Valentin and Brunner found that air inspired at 51° Fahr., rose, on expiration, to 96°·6; while air inspired at 107°·3 F., fell on expiration to 100°·2; and that air inspired at an ordinary temperature rose on an average to 99°·5.

Owing to its expansion by additional heat, 100 cubic inches of air, inspired at an ordinary temperature, rose, on expiration, to 107·8 cubic inches, when the temperature increased to 99°·5.

Watery vapour in the expired air.—Valentin and Brunner found that the average quantity of watery vapour exhaled by an adult male in 24 hours was 7819 troy grains.

"In these experiments, the entire quantity of water in the expired air was ascertained, so that the actual quantity given off by the fluids of the body must have been less than this; and Valentin calculates, that if a person breathes atmospheric air saturated with moisture, at the temperature of 60° F., and if the expired air be at the temperature of 99°·5, F., and also saturated with moisture, about two-thirds of the watery vapour contained in the expired air will be furnished by the fluids in the body."

From Molischott's experiments, it does not appear that the expired air is always saturated with watery vapour.

Animal matters, in minute quantities, escape along with the expired vapour (Valentin, Marchand), and various organic and mineral substances, when injected into the veins, escape in part by exhalation from the lungs (Nysten, Tiedemann).

More oxygen disappears from the inspired air than is sufficient for the formation of the carbonic acid gas in the exhaled air, and there is a slight diminution in the bulk of the expired air from this cause. This is by far the most important chemical change the atmospheric air undergoes during its sojourn in the lungs. Some observers noticed an absorption of nitrogen during respiration (Humbold, Spallanzani); others observed, or inferred, an exhalation (Nysten, Boussingault); while others detected no change upon the quantity of azote (Vallentin, Allen).

Per centage and absolute quantity of expired carbonic acid gas in the expired air.

Average quantity by volume of carbonic acid gas in 100 parts of expired air according to

Prout . . .	3·45	per cent.
Coathupe . .	4.02	„
Valentin . .	4·38	„
Vierordt . .	4·33	„
Thomson . .	4·16	„

We may consider that the average quantity of carbonic acid gas in the expired air is 4·35 per cent.

A greater quantity of carbonic acid gas is exhaled with the respired air during the *day* than the *night*, in the proportion of 1·23 in the day to 1· in the night.

During *digestion*, the quantity of carbonic acid gas exhaled increases.

Vierordt found that 15·7 cubic inches of carbonic acid gas were exhaled per minute before dinner, and 22·2 after dinner.

Fasting diminishes the quantity of carbonic acid gas in the expired air (Scharling, Boussingault, Marchand).

Alcohol diminishes remarkably the quantity of carbonic acid gas in the expired air (Prout.) Vierordt found, after having taken nearly a bottle of wine, that the per centage of carbonic acid had fallen, in a quarter of an hour, from 4·54 to 4·01.* Tea, according to Prout, has an effect similar to alcohol.

Mental emotion, whether joyful or of an opposite nature, diminishes the quantity of carbonic acid.

Exercise increases the absolute quantity of carbonic acid gas exhaled (Vierordt, Sequin).

More carbonic acid is evolved from the body in a *cold* than a *warm* temperature (Crawford, Vierordt)—in *winter* than in *summer* (Edwards).

Barometric pressure does not appear to exercise any influence on the quantity of carbonic acid gas evolved.

We may remark, that there seems to be reason for thinking that the increased evolution within certain limits, of carbonic acid gas, causes a sense of exhaustion, (witness the effects of digestion and of exercise), and that a diminished evolution, within certain limits, causes a sense of exhilaration (witness the effects of alcohol and tea).

"*Age, sex, and constitution of body.*—The quantity of carbonic acid evolved from the body is not only influenced by the ingesta, and the varying conditions of the surrounding media, but also by the age, sex, and constitution of the body. The only important researches into the effects which these last conditions of the body have upon the evolution of the carbonic acid, are those of Andral and Gavorret, and Scharling." (p. 349.)

"Andral and Gavorret experimented upon 62 individuals of different ages, and of both sexes; and they have drawn the following conclusions from their experiments :—

"1. The quantity of carbonic acid gas exhaled from the lungs in a given time, varies according to the age, the sex, and the constitution of individuals; and that indedendently of the weight of the body. 2. At all periods of life, extending from eight years up to the most advanced old age, the quantity of carbonic acid evolved from the lungs, differs in the two sexes; but, *cæteris paribus*, the male exhales a considerably larger qantity than the female. This difference is most marked between 16 and 40 years of age, during which period the male generally evolves nearly twice as much as the female. 3. In the male, the quantity exhaled goes on continually increasing from 8 to 30 years of age, and becomes suddenly very great at the age of puberty. After 30 years of age, it begins to decrease; and this so much the more decidedly as the person approaches extreme old age, at which period it may be reduced to the quantity evolved at 10 years of age. 4. In the female, also, the evolution of carbonic acid increases from infancy up to puberty; but, at this period, contrary to what takes place in the male, it remains stationary, so long as the menstrual secretion continues natural. At the time the menses cease, the evolution of carbonic acid gas from the lungs undergoes a marked augmentation; but after a while it begins to decrease as in the male, and proportionally as she advances towards old age. 5. In the female, during gestation, the exhalation of carbonic acid from the lungs equals the quantity exhaled at the period of the cessation of the menses. 6. In both sexes, and at all ages, the quantity of carbonic acid is so much the greater as the constitution is stronger, and the muscular force more developed." (p. 351.)

Scharling's experiments confirm the conclusions of Andral and Gavorret.

Influence of the respiratory movements upon the evolution of carbonic acid from the lungs.

Frequency of the respiratory movements.—When the number of respirations is less than usual, the per centage of the carbonic acid in the expired air is increased, while its absolute quantity is diminished; on the other hand, when the respirations are more frequent than usual, the per centage of carbonic acid in the expired air is diminished, while its absolute quantity is increased.

Vierordt has constructed the following table, as the result of his experiments. The average bulk of each respiration is supposed to be 30 cubic inches :—

Number of respirations in a minute.	Per centage of carbonic acid in the expired air.	Volume of the expired air in a minute. Cubic Inches.	Volume of carbonic acid in the expired air in a minute. Cubic Inches.	Volume of carbonic acid in each inspiration. Cubic Inches.
6	5·7	183	10·43	1·738
12	4·1	366	15·00	1·250
24	3·3	732	24·15	1·006
48	2·9	1464	42·45	0·884
96	2·7	2928	79·05	0·823

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* *Query*—Was he *then* in a condition to make a correct observation?

"Other experiments made by Vierordt prove that, when the respiratory movements have been suspended for a time, the per centage of carbonic acid in the expired air will increase, but the absolute quantity evolved from the lungs will be diminished; so that the increase in the per centage of this gas does not by any means compensate for the diminished quantity of air passing through the lungs. Allen and Pepys state that air passed nine or ten times through the lungs contained 9·5 per cent. of carbonic acid gas, and the greatest quantity obtained in air breathed as often as possible was 10 per cent." (p. 352).

Allen and Pepys also found the carbonic acid gas in the first and last portions of air in a deep expiration to differ as widely as 3·5 and 9·5 per cent.

It is very uncertain what is the average quantity of carbon evolved in the form of carbonic acid in the 24 hours. According to Scharling, the loss of carbon by the lungs and skin is 7·382 oz. troy; and, according to Liebig, by the indirect method of research, it is 13·9 oz.

The different orders of the vertebrata consume very different proportions of carbon. The following table, supplied by Vierordt, shews the quantity of carbon consumed in the 24 hours for every 1543 grains' weight of the body in the four divisions of the vertebrata:—

	Troy grains.	
Tench . . .	·370 =	1
Frog	1·342 =	4
Man	4·506 =	12
Pigeon . . .	42·317 =	114

Quantity of oxygen absorbed at the lungs.—Valentin and Brunner found that the quantity of oxygen absorbed, and carbonic acid evolved, at the lungs approximated closely to their diffusive volume, according to the law of the diffusion of gases discovered by Graham; and, as the diffusive volume of carbonic acid gas is to oxygen as 1:1·1742, they maintain that, for every 1 volume of carbonic acid evolved from the blood, 1·1742 vol. of oxygen is absorbed. Dalton calculated that 23 cubic feet of oxygen are absorbed at the lungs in the 24 hours. From Dr. Snow's experiments, it appears that the prejudicial effects of breathing air deteriorated by respiration, is not entirely due to an increase in the quantity of carbonic acid, but also in a considerable degree to the diminution of oxygen.

Differences between arterial and venous blood.

Nothing can be more opposite and contradictory than the different results arrived at by various observers as to the chemical and physiological differences between arterial and venous blood. While some observers say that the temperature of arterial blood is greater, others say that it is less than that of venous blood. The same discrepant statements have been made with regard to the specific gravity—the relative proportion of solid materials and water—of blood-corpuscles, fibrin, fat, osmazome, and salts, in the two kinds of blood.

It is now placed beyond dispute that free gases exist in the two kinds of blood; and it becomes a point of great importance, in deciding upon the true theory of respiration, to ascertain their nature, quantity, and relative proportions, in the two kinds of blood.

Magnus, whose researches on this subject are the most trustworthy, ascertained the quantity of free gases in the blood by the air-pump, and by agitating the blood—first with hydrogen, to procure the quantity of carbonic acid gas, and then with carbonic acid, to procure the oxygen and nitrogen; and he gives the results of his experiments in the following table:—

	Arterial Blood. (per cent.)	Venous Blood. (per cent.)
Carbonic acid gas .	62·3	71·6
Oxygen	23·2	15·3
Nitrogen	14·5	13·1

According to Magnus, blood is capable of absorbing thirteen times more oxygen than water can do; and venous blood can absorb considerably more than its own volume of carbonic acid gas. According to Mitscherlich and others, more of this gas can be absorbed by arterial than by venous blood.

If blood-corpuscles be immersed in water, or exposed to carbonic acid, they swell, and become more globular; if in saline solution, they become smaller and thinner, by means of the action of endosmose and exosmose. Many observers describe a difference in the corpuscles in arterial and venous blood, and they agree in this—that the red corpuscles are more turgid and less clear in venous than in arterial blood. Some conceive that the difference of colour in the two kinds of blood is due to this—that in the venous blood the blood-corpuscles are biconvex, while in the arterial blood they are biconcave, and that in the latter case there is an increased reflection of light in the red particles. We may conclude that the difference of colour in the corpuscles is due to a physical, and not a chemical action.

Dr. Reid concludes that portion of his article which relates to the *theory of respiration* in the following words:—

> "It is almost universally believed that the carbonic acid gas in the blood is formed by the combination of the absorbed oxygen with the blood, chiefly, if not entirely, in the course of its circulation through the systemic capillaries; but this opinion, however plausible it may appear, and though it apparently accounts for the evolution of animal caloric in a satisfactory manner, does not rest upon any direct evidence. There are no facts that militate against such a combination; and there can be no doubt that, in the present state of our knowledge, it affords the readiest and most complete interpretation of the phenomena referred to it; but still it is quite possible that the carbonic acid may be formed during the process of nutrition differently from what is generally supposed."

We cannot conclude our analytical notice of Dr. Reid's very valuable and elaborate article on Respiration, without strongly recommending its perusal and careful study to all those who wish to make themselves thoroughly acquainted with the present state of knowledge of the important subject of which it treats.

The two following articles on the *Rodentia* and the *Rotifera*, written respectively by Professor Rymer Jones and Dr. Lankester, in common with all the articles of this class in the Cyclopædia, will be, in future, standards of reference as to the structure of the orders of animals of which they treat.

In the next article on *Saliva*, by Dr. G. Owen Rees, we have a sound and clear analysis of the more recent researches into the chemistry of this secretion.

The *quantity* of saliva secreted is uncertain. Mitscherlich obtained, in 24 hours, 2¼ oz. troy of saliva from the Stenonian duct of a patient affected with fistula of that duct; we may therefore conclude that this patient secreted from 16 to 20 oz. of saliva in the 24 hours.

The specific gravity of saliva is about 1008, and it contains about 99 per cent. of water. L'Heritier found the quantity of water to be greater in early life—about 996 per 1000.

The exact healthy constitution of saliva is as yet only imperfectly ascertained, and chemists do not seem to be agreed among themselves as to the nature of certain of its constituents, since the peculiar animal principle described under the name of Ptyalin by Berzelius and Simon, is evidently not the same with the principle described as ptyalin by Wright.

The presence of sulphocyanide of potassium in saliva, announced by Treviranus, and confirmed by Tiedemann, Gmelin, and Wright, could not be detected by Kuehn, or satisfactorily ascertained by Müller. We have always found this salt in healthy saliva.

Schulze states that the saliva, which is alkaline when fresh, from the presence of ammonia, may become acid if retained long in the mouth. This has been denied by Mitscherlich, who says that no ammonia is given by heating the saliva, and that the alkalinity depends on the presence of a fixed alkali. Dr. Rees conceives, with Enderlin, that the alkaline reaction, which he finds to be increased by evaporation, is due to the presence of tribasic phosphate of soda. Under great nervous excitement, when the secretion has not been entirely suspended, we have found it strongly alkaline.

The most important recent discovery is that of Leuchs, who found that starch kept in saliva, at a temperature of 98°, may be converted into sugar. This action Mialhe attributes to the presence of a principle named by him animal diastase, in consequence of its possessing the qualities of that principle as it exists in the vegetable kingdom in germinating seeds.

From Bernard's researches, it appears that the saliva of the dog effects the conversion of starch into sugar but slowly; that of the horse more quickly; but neither acts with the same rapidity as human saliva. Pure saliva, obtained from the parotid and submaxillary glands of a dog, was found by Bernard to be quite incompetent to effect the transformation of starch, that power being the property of the secretion of the mucous membrane lining the mouth.

The Saliva in Disease.

Salivary calculi from the human subject are composed, for the most part, of phosphate of lime, while in those from the horse and ass the chief ingredient is carbonate of lime.

The disease called *Ranula*, long supposed to be from the accumulation of saliva in a closed salivary duct, has lately been shewn by Dr. Goruss Besanez to depend on the development of an encysted tumor within the duct. His analysis shews that the contained fluid of ranula differs entirely from saliva, and places it among the products of morbid secreting sacs.

L'Heritier and Simon found that the saliva of mercurial salivation contains a great excess of solid constituents.

Dr. Rees concludes this article, which is worthy of his high reputation, with a series of analyses by Dr. Wright and Dr. Prout of various morbid specimens of saliva.

This number of the Cyclopædia concludes with an unfinished but admirable article on Secretion, by Dr. Carpenter, a notice of which we shall reserve for a future occasion.

Underwood's Medical Appointment Book. Diary and Almanack for 1849, *for the especial use of Physicians, Surgeons, and General Practitioners.* London: Underwood; and Simpkin and Marshall.

We consider that this will be found a useful little memorandum book. It contains an almanack for the year, with the tables which usually accompany it, and a sufficient number of ruled pages, with blank leaves, for entering throughout the year appointments for each day, as well as remarks on cases. We have one suggestion to make, namely, that to the weights and measures should be appended a table of equivalents of those used in France and Germany. Medical men sometimes require to know the difference between a décigramme and décagramme, and how much each represents in apothecaries' weight.

The Medical Practitioner's Visiting List and Register of Engagements for 1849. London: Smith, 49, Long Acre. 1849.

This is another of the various memorandum books which have appeared at this season. It consists of a number of ruled pages, with spaces for the daily registration of cases, and a diary of occurrences. Order and convenience have been studied in the arrangement, and we think successfully. The List is preceded by an almanack, with many tables, which will be found useful to medical men. The List-book is published at a cheap rate, and will prove convenient to all those practitioners who keep notes of cases, or who, fortunately for themselves, have long lists of patients by whom they are likely to be daily consulted.

Proceedings of Societies.

PATHOLOGICAL SOCIETY OF LONDON.

Monday, December 4, 1848.

R. Partridge, Esq., in the Chair.

Dr. Bentley exhibited a specimen of

Abscess of the Liver, bursting into the Pericardium.

A man, æt. 29, came under Dr. Bentley's care, at the City of London Hospital for Diseases of the Chest, on the 29th of June, 1848. He was steward of a merchant vessel, and returned home from Madras and Trinidad in September, 1847. He was then quite well, and had been so during the sixteen years he had been at sea, except that he had had fever and ague at Hong Kong eight years before.

In December he went down to Folkstone, and took cold, but was not materially indisposed until January, when he was suddenly seized whilst walking with severe pain to the right of the xyphoid cartilage, difficulty of breathing, followed by cough and expectoration. These symptoms increased, and the dyspnoea prevented his lying down. After six days they had become so urgent that he was bled from the arm, and confined to his bed for six weeks; repeatedly leeched on the epigastrium and over the right shoulder-blade. About the beginning of March he had recovered sufficiently to be able to walk out, and so continued for three months. In April he had severe rigors and bleeding from the nose, which repeatedly recurred; he suffered from severe pain in the abdomen, at the lower part of the chest, and in the region of the heart, and had also profuse perspirations. From this time he was unable to lie down in bed. He had no cough. In May he had occasional vomiting of blood.

When first seen by Dr. Bentley, in June, he complained of pain in the spine, vomited his food, and had frequent retching when the stomach was empty; his bowels were confined; he was incapable of lying down in bed, but slept with tolerable comfort when propped up, and inclined somewhat to the right side. He had but little cough, but profuse perspirations, and was subject to occasional attacks of faintness; he was thin and much anæmiated. The resonance on percussion was defective over the whole chest, but especially dull on the left side; the respiratory murmur was natural over the whole extent of the right lung, although somewhat defective on the left. The costal cartilages in the præcordial region were unusually prominent, and the dull space was much extended. The extent over which the pulsation of the heart could be seen and felt was greater than natural, and the pulsation had a peculiar wave-like motion; the pulse was regular, but feeble; there was no murmur with the heart.

There was no material alteration in his symptoms until the 13th of August, when about six in the evening he was suddenly seized with retching and excruciating pain in the pit of the stomach: these symptoms continued unabated until seven o'clock the following morning, when he died. Being all along doubtful as to the nature of the case, he was seen upon two or three occasions whilst under Dr. Bentley's charge, by Dr. Jeaffreson and Peacock, who hazarded the conjecture that it might be abscess of the liver, circumscribed diaphragmatic pleurisy, or mediastinal abscess. The post-mortem was performed twelve hours after death.

The body was much emaciated; there was considerable prominence in the epigastrium, with a deep-seated sense of fluctuation on the left side of the xyphoid cartilage; prominence also of the lower part of the sternum, and of the lower sternal cartilage. Upon removing the sternum, the chest was filled by an enormously distended pericardium, containing not less than four pints of sero-purulent fluid. The heart was of natural size, and the attached and reflected pericardium was covered with a thin, pale, soft, and granular layer of lymph; at the apex the reflected pericardium was extremely thin, and was protruded inwards by the pressure of an enormous abscess in the liver; at one point of the projecting portion there was a small nipple-like prominence, with an aperture in it, from which, when the left lobe of the liver was compressed, a little thick purulent matter exuded. The left lobe of the liver was almost entirely occupied by a large abscess, bounded by a thick layer of very dense, almost cartilaginous tissue, and lined by rough and thick false membranes. The fluid in the cavity of the abscess was extremely thick, and pale yellow or whitish. The liver itself was very large, extending so far as the umbilicus, and quite over to the left side; much congested in the hepatic venous system, and adherent above to the diaphragm. The lungs were both compressed, the right attached by loose cellular adhesions, the left free; both sparingly crepitant, but free from disease. The heart was healthy.

Dr. Peacock exhibited a specimen of

Abscess in the cyst of an hydatid of the Liver, opening through the lungs,

from a young woman, 20 years of age, of irregular habits. She was admitted into the Royal Free Hospital on the 4th of August last, labouring under the usual symptoms of the form of bilious fever then prevalent. On the 16th, or 26 days from the commencement of her illness, she was sufficiently recovered to be allowed a more nutritious diet, when on the following day the feverish symptoms returned, and the jaundice, which had never entirely subsided, became more marked. On the 18th she was suddenly seized with a violent pain in the right side, became greatly collapsed, and shortly after began to cough up matter of a fœtid odour, and of bright yellow colour. She had before, while in the hospital, reposed chiefly on the right side, but she now lay wholly on the left, or on the back and inclined partly towards the left. When turned even for a short time on the right side, the cough became more frequent and severe, and the quantity of matter expectorated produced a sense of suffocation. On examination, there were found evidences of fluid and air in the pleura, or in a large cavity at the base and side of the lung. Percussion in the lower lateral region elicited an imperfect tympanitic sound, and on auscultation, loud gurgling was heard with the respiration, and the resonance of the cough and voice had a distinctly metallic character. These signs became more marked in the course of a few days, and were especially distinct, on a limited space, about three inches on the right side of the xyphoid cartilage, and immediately below the ribs. For ten days after her relapse the symptoms continued much the same. Matter, either of a deep bilious colour, and bitter to the taste, or deep brown coloured, and excessively fetid, continued to be voided in large quantities with the cough, and especially when she lay on the right side. The stools were clay coloured, and the urine of a deep brown, and with these were combined the usual typhoid symptoms. On the 28th of August she was seized with pain in the left of the chest, and on examination evidences of inflammation of the lower part of the left lung was detected. She died on the 8th of September. On examination, the liver was found of large size, extending on the left side to the 9th costal cartilage, below to near the umbilicus, and above to the level of the right nipple. The enlargement involved chiefly the right lobe, and its surface was intimately adherent to the diaphragm over a large portion of its extent, and in other places displayed a recent exudation of lymph. In the endeavour to remove the liver and right lung entire, and in connexion, a large cavity, situated chiefly in the lower lateral region, was laid open. This cavity was bounded below by the liver, and above by the base of the lung, the intervening portion of the diaphragm being entirely destroyed, and the upper portion of the liver deeply excavated. The cavity contained air, with not less than two pints of a thick, opaque, whitish-coloured fluid, much resembling partially coagulated white of egg, which had floating in it a large collapsed acephalo-cyst. The cyst in the substance of the liver was lined by plates of unorganized lymph, of a deep brown colour and semi-cartilaginous hardness, while at the base of the lung the cyst was in many places destroyed, so that the contained matter penetrated into the substance of the lung. The right lung was much displaced upwards by the pressure of the cyst, and was entirely adherent to the parietes. The only portion which continued permeable to air was the anterior and superior part of the upper lobe, and in this was some interlobular emphysema. Laterally, posteriorly, and inferiorly, the lung was in a state of recent pneumonic condensation, having the pale gray colour indicative of commencing suppuration. In different parts, and especially when it came in contact with the cyst, portions were in different stages of gangrene; in some the disorganization was only commencing; in others the tissue was resolved into a diffluent pulp; and in yet others the tissue destroyed had been nearly wholly removed, and an almost empty cavity remained. On careful examination of the cyst, no communication between the bile tubes and the cavity could be detected; yet the large intermixture of bile with the matters expectorated could not be explained without such communication being supposed to exist.

On cutting through the liver, a second cyst, which also contained a collapsed acephalo-cyst, and which was also in the state of suppuration, was found embedded in the substance of the liver, below the former; and a third, of which the cyst was entire, was situated between the liver and transverse colon. Of these tumors, the latter was the smallest, about the size of a duck's egg; both were bounded by distinct cysts, and lined by plates of a hard semi-cartilaginous, yellowish, brown-coloured material. The fluid contained in the entire acephalo-cyst was of a deep orange or amber colour, and had floating in it numerous smaller hydatids.

The upper part of the left lung was attached to the parietes by a thin layer of recent lymph, and the lower parts were covered by a similar exudation of greater thickness. The posterior and inferior portions of the lower lobe were solidified, and at the base there was a large mass in a state of gangrene, and in process of resolution into a diffluent pulp. The bronchial tubes were filled with grumous fluid.

The kidneys were very pallid, but not otherwise diseased; the other organs of the chest and abdomen were healthy.

Mr. Partridge exhibited a specimen of

Extensive Necrosis of the Radius,

taken from a boy, æt. 15, who had been under his care in King's College Hospital. Four or five years ago, the boy received a blow on the arm, which was followed by inflammation of the bone, and exfoliation of some small fragments which were removed by an operation. At the end of a year he again came into the hospital, the disease having considerably extended, and not consenting to the proposal of having the diseased portions removed, he went down to Margate Infirmary, and returned much worse, two ribs on the right side, and part of the right metatarsus, having become affected with caries, and the boy having become much emaciated. On his death, the lungs were found healthy, but the liver and kidnies diseased.

Dr. R. Quain exhibited drawings illustrative of a preparation of

Cartilaginous Deposits on the Spinal Arachnoid,

which was taken from a female, 26 years of age, who had died of an hæmorrhagic form of disease, probably malignant variola. The duration of the attack was only 72 hours, and one of the principal symptoms was severe pain in the loins. This led to the spine being examined, and the only morbid appearance found was a number of laminæ, apparently cartilaginous in texture, which were deposited on the loose or free arachnoid. These were evidently of too long standing to have been the cause of the acute symptoms. Similar deposits, which are generally most abundant on the posterior aspect of the cord, are not of unfrequent occurrence on the arachnoids of aged persons, but they are not often found on those of young subjects, as in the present case. The laminæ varied in size from the diameter of a pin's head to that of a fourpenny piece. The external surface attached to the free arachnoid was smooth and shining; the internal, directed towards the spinal cord, rough. The whole deposit had a pearly, cartilaginous-like aspect; was flexible, elastic, and tough on section. It burned with an ammoniacal odour, leaving a very small quantity of ash, which was almost entirely soluble in diluted nitric acid. Examined with a microscope (+40), the rough surface was seen to be studded with numerous elevations, or papillæ, resembling minute stalactites: when a small portion was examined by a higher power (+300), the substance seemed to be composed of a transparent matrix, in which were deposited small cells, containing a nucleolus, and numerous small amorphous granules. The composition and structure of the deposit led Dr. Quain to conclude that it was of a cartilaginous character (at least in this case), and neither atheromatous, as supposed by some, nor osseous, as stated by others. These deposits are figured by Dr. Carswell, in his Morbid Anatomy,[*] and are considered by him to be cartilaginous.

Dr. **Brinton** exhibited a drawing of

Unusual communication between the Hypoglossal Nerves of opposite sides at the base of the tongue.

A large cross branch, just in front of the hyoid bone, united the two nerves.

The cross branch consisted of two parts—one *from* each nerve, or, *vice versâ*, one to each nerve.

Each portion left, at an acute angle, the proximal fibres of the nerve, and after going over to the opposite side, was then in great part, or almost wholly, continued into its distal portion.

The nerve of each side beyond the point of junction continued forwards in the ordinary manner, but many of its fibres were traceable to the median line, and some even across it in the genio-hyoglossi muscles.

One might almost conjecture from these appearances, that this rare and singular junction was *apparent* only, and that at its distribution each nerve virtually restored the filaments which it had previously borrowed and carried with it through a certain part of its course.

Mr. **Solly** exhibited

Eight loose Cartilages removed by him from the Elbow-joint

of a man, æt. 59, who had been admitted into St. Thomas's Hospital, on the 22nd of September, with inflammation of the elbow-joint, apparently rheumatic. On the subsidence of the inflammation by appropriate treatment, several small bodies could be felt at the inner side of the elbow. He had first noticed a small lump in this situation last January, and its appearance had been preceded by two or three distinct rheumatic attacks—the first attack having commenced three years ago. As the presence of these bodies interfered with the movements of the joint, and were likely to bring on inflammation Mr. Solly removed them without any difficulty by an incision along the inner side of the articulation: the wound had healed in ten days.

He submitted to the Society the details of an examination which had been made by Mr. Rainey, and which were the following:—

These bodies have a distinct investing membrane, which, on its external surface, is smooth; but by its internal one so intimately connected to the body itself as to admit of being detached only by small shreds.

This membrane is composed of fibro-cellular tissue, mixed with granular matter.

Their internal structure, as exhibited by a section through the middle, is seen by the naked eye to consist of two distinct substances—the one being semi-transparent like fibro-cartilage, the other perfectly opaque, and white, like bone. The former, under the microscope, presents the appearances usually seen in fibro-cartilage. The latter resembles remarkably in its ultimate structure those bones which consist only of one bony plate placed between two-folds of membrane—as the thin plates of the æthmoid. In the bones, the lacunæ, as in the opaque parts of the bodies before mentioned, are the same as in other bones; but there are no distinct or well formed canalicula branching out of them. There is in both a stellate arrangement of the earthy matter around the lacunæ, but nothing like canaliculi; and this appearance is more striking in the bones alluded to than in the earthy parts of these bodies.

I believe no satisfactory explanation has yet been given of the manner in which these loose bodies are formed in joints, although I think their origin, and the circumstance of their becoming loose in a joint, will appear obvious, by a reference to the remarkable character of the epithelium in joints—the thecæ of tendons, and mucous bursæ. This epithelium was described by me in a paper communicated to the Royal Society by Mr. Simon, about three years since, but which has not been published. A few general observations upon this structure, will suffice for the present. It is situated in those parts of a joint, theca, or bursa, where it is least exposed to pressure: it consists of loops and convolutions of capillaries of various degrees of complexity, proceeding from the surrounding vessels, and projecting into the synovial cavity: these capillaries are enclosed in sacculi of basement membrane, studded with minute oval cellules. From the sacculi enclosing the capillaries, numerous other sacculi, into which no capillaries enter, proceed: these are of various forms and sizes, but generally are attached to the primitive sacculus by an extremely long and slender filament of fibrous tissue, resembling the petiole of a leaf, the secondary sacculus being its expansion. Sometimes there are several series of these sacculi attached one series to another, exhibiting an arborescent appearance, but in every instance the secondary sacculi are extravascular.

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[*] Analogous Formations, Plate 4, Fig. 3.

I have found this kind of secretory apparatus in all the joints—as, for instance, the finger-joints, the knee, shoulder, &c. Now this being the apparatus by which synovia is elaborated in all parts in which this fluid is found, and the bodies thus described being found in these situations, they may be inferred to be the product of disease in these structures: the cellules of these fringes in the place of elaborating synovia from the blood, producing, under the influence of morbid action, other products—such as cartilage, which becomes converted into imperfectly-ormed bone. The fact of the secondary sacculi being connected to the primary by extremely slender pedunculi, will suffice to explain the reason why these bodies may become formed in the first instance, the pedicle serving both to keep them attached, and to convey the material from the blood necessary for their development, until they acquire a certain size; but afterwards, from its tenuity becoming no longer capable of holding them, when it breaks, and the bodies become loose, and most likely cease to enlarge.

Mr. Ebenezer Smith exhibited a specimen of

Pyelitis.

A gentleman, æt. 38, had slightly suffered from stricture of the urethra for eleven years, and severely during the last three. Five years ago, he had difficult and frequent micturition, scanty and mucous urine. He refused to allow catheterism, and being about to embark for India, could not pursue treatment. He had voyaged to and from hot climates for twenty-two years, and was five weeks, last July and August, in the Brazils, where he was in the habit of riding briskly for one or two hours daily on horseback, without pain either in his loins or bladder. During the past year, micturition and irritability of the bladder had been often most distressing. He had become emaciated, and had had a cough for two months. He arrived in London on November 10th, extremely emaciated, with a frequent, small pulse; difficult, frequent respiration; pain on the left side of his chest; fever; very frequent, painful, and imperative urgency to micturate; little sleep or appetite; lungs universally dull on percussion; respiration feeble. In the right lower lobe, the respiration was quite inaudible behind. On the left side of the chest up to the left arm pit, pneumonic crepitation was distinct.

The pulmonary inflammation was relieved by mild treatment, and then the irritation of the bladder and kidneys became more manifested, and was mitigated only by opiates. Urine dark, scanty, and sometimes milky, containing amorphous shreddy particles, and more usually loaded with bloody mucus; pain in pubic region, and frequent painful micturition; the right lumbar region was slightly swollen, without any pain; the left rather tender. He died on the 16th.—On examination twenty-eight hours after death, the lungs were almost universally filled with small tubercles, a very few of which were softened. At the back of the left lower lobe, an apoplectic spot existed, surrounded by inflamed lung, in a state of red carnification. The right kidney possessed scarcely any secretory apparatus, its glandular structure having been absorbed by the eccentric pressure of about twelve half ounces of puriform and lardaceous matter contained in its pelvis,—a large cyst, in fact, formed of the proper coat and mucous lining of the kidney. The ureter, about two-thirds of its length towards the bladder, was blocked up by a mass of hard lardaceous substance, which caused entire obliteration from that point to the bladder. The left kidney was very much enlarged, its upper part retaining its glandular structure, and the extremities of two of the tubular cones ulcerated, and containing brown tubercular matter, altogether much resembling vomicæ of the lungs. The lower half of the kidney formed a large cyst containing puriform and cheesy matter, like that in the right. The ureter was nearly as large as the duodenum in most of its extent. Opposite its entrance to the bladder, was a highly vascular red tumor of the mucous membrane, about one inch long, and one quarter wide. The coats of the bladder were thin, and easily lacerable. This case was shewn, to illustrate the connexion between pyelitis and phthisical vomicæ.

For Mr. Ewen, a specimen of

Unreduced dislocation of the left radius and ulna backwards,

taken from a labouring man, æt. 82, to whom the accident occurred when he was 7 years of age. The inferior extremity of the humerus was applied upon the radius and ulna at nearly a right angle, and had formed with the upper part of their anterior surfaces a false joint. Instead of being flattened, it was irregular, triangular, and thick, from before to behind, and measured in the middle, from before backwards, three-quarters of an inch; in the same direction internally, an inch and a half; externally, an inch. Both condyles, but chiefly the internal condyle, much less prominent than natural. The upper surface of the head of the radius was convex, and situated just behind the level of the outer condyle, and received into a dense capsular ligament attached, on the one hand, to the back part of that process, and, on the other, to the upper part of the outer aspect of the olecranon: the inner part of the circumference of the head rested in the depression on the ulna for receiving the insertion of the aneoneus, and was a quarter of an inch beyond the level of the lesser sigmoid cavity, which was in contact consequently in the neck of the bone. The tip of the coronoid process of the ulna (which eminence was much less prominent than natural) was immediately below the level of the olecranal cavity of the humerus, from the bottom of which depression a strong ligament proceeded to the space between the two processes of the ulna. The trochlear surface no longer existed; the corresponding trochlea of the humerus was of course absent.

From the above conditions, it appeared that there had been a complete dislocation of the radius, and less complete of the ulna, backwards.

The forearm during life was kept in a semi-flexed condition, and all its movements were limited; yet the man obtained his livelihood as an agricultural labourer.

Also, for Mr. Ewen, a

Case of Intussusception of the whole Cæcum, Ascending and Transverse Colon, into the Sigmoid Flexure of the Descending Colon,

taken from a child 6 months old. It suffered from obstinate constipation, vomiting, and *bloody mucous discharge* from the rectum, and died in 60 hours. After death, the whole of the colon was found invaginated as above described, and its mucous membrane purple from strangulation.

NEWCASTLE AND GATESHEAD PATHOLOGICAL SOCIETY.

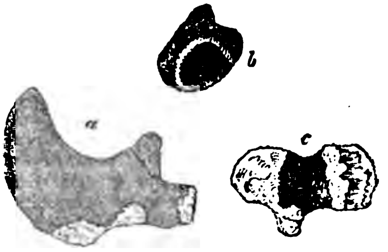
November 13th, 1848.

T. M. Greenhow, Esq., in the Chair.

Case of Diseased Kidney.

Mr. Watson exhibited three calculi, taken from the diseased kidney of a woman, aged 43. Her complaint first manifested itself by frequent attacks of pain in the lumbar region, which commenced ten years before death, and continued with little interruption for four years, when considerable relief was suddenly experienced, simultaneously with the discharge of a considerable quantity of pus by the rectum. After a recurrence of the attacks of pain, temporary alleviation was in the same manner repeatedly obtained, at intervals of three or four months, the last appearance of pus in the fæces occurring five months before death; but the emaciation of the patient proceeded gradually, until she sank from exhaustion. She had during the last three or four years also passed some pus with the urine.

On post-mortem examination the right kidney was found converted into an immense bag, containing about two quarts of purulent fluid, free from any urinous smell. The sac extended from the margin of the ribs into the fossa of the ilium, and was adherent to the superjacent intestines. The proper structures of the kidney had wholly disappeared: there were merely two strong membranous septa, dividing the sac into three portions, which communicated at the point where the pelvis of the kidney had existed. The ureter was dilated throughout the greater part of its extent, so as to equal the size of the abdominal aorta. Its renal extremity was completely obstructed by a crescentic-shaped calculus, (marked *a* in the accompanying figure) one extremity of which was firmly wedged into the commencement of the ureter, and closely adherent to its muscular coat. Above this, and lying loosely in the sac, but worn into a circular cavity on one surface, was a second calculus of smaller size (*b*). As before mentioned, the sac was adherent to the colon, and it communicated with the interior of this portion of the intestinal tube by a circular opening three-quarters of an inch in diameter, situated in the external and posterior wall of the ascending colon. This aperture was also firmly closed by the calculus (*c*), which was of cylindrical shape, about an inch in length, constricted in its centre, and stained at this point by contact with feculent matter. At the junction of the fistula with the mucous membrane of the intestine, the latter was thickened and everted.



The calculi were composed chiefly of phosphate of lime, and the disease had in all probability commenced with pyelitis or inflammation of the lining membrane of the pelvis of the kidney.

Dr. White mentioned a somewhat similar case, but in it the accumulated pus made its escape through a fistulous opening in the loins, and after each discharge; the patient was for years able to resume his ordinary occupation, and was still living.

Case of Ruptured Liver.

MR. POTTER communicated a case of ruptured liver, which occurred in a boy of 15, who, having fallen about twenty-eight feet, was admitted into the infirmary in a state of collapse, but without presenting any external marks of violence. He was stated to have alighted on his feet. Stimuli were administered in vain, and he died about six hours after the accident. On examination, the liver, which was was the only part of the body injured, and the structure of which appeared perfectly healthy, was found extensively lacerated, its right lobe being fissured transversely throughout the greater part of its extent. About two quarts of fluid blood were found in the peritoneal cavity.

Case of Ovarian Disease.

MR. M'DONNELL exhibited a diseased ovary, and related the following particulars of the case, which presented some peculiar features of interest, from the abdominal tumor having by the patient and her friends been mistaken for the enlargement of pregnancy.

I. P., æt. 51, a sallow-complexioned, emaciated woman, in very reduced circumstances, frequently in want of many of the necessaries of life, and for a short time troubled with a mild attack of bronchitis, was admitted as a house-patient of the Gateshead Dispensary, on the 31st of August last. She has had nine children, always had good times with them, and has ever enjoyed good health, till about five months since. She has not menstruated for 18 years. On my first visit I found her complaining of a severe circumscribed pain, situated between the fifth and sixth ribs, midway between their sternal and vertebral extremities; the symptoms clearly pointed it out to be an attack of partial pleuritis, from which by leeching and subsequent blistering, and the very moderate use of the usual remedies in such cases, she slowly but completely recovered. At my first visit I directed her attention to the size of her abdomen, as it struck me then as being the more serious disease of the two. She replied that she thought nothing of that, as of it she would in due time get well; she being, she said, in the family-way, and within six weeks of her time; that during the last months she had gradually enlarged; that she had felt the child frequently move, and that a midwife, on whose opinion she then had great reliance, had some time prior to my first visit pronounced it to be a case of pregnancy, from an examination she made per vaginam at the time. From this time I generally saw her every day: the usual symptoms consequent on such enlargement of the abdomen —such as dyspnœa, difficulty of passing water, costive bowels, an anasarcous state of the lower extremities, &c., daily grew more severe, until at length, about seven weeks from my first visit, I succeeded with difficulty in convincing her that she was not in the family way: and, seeing that her case became desperate, every symptom assuming a most aggravated form, I decided on depending no longer on the palliative plan of treatment I had been pursuing, and at once proposed tapping, as the only means left of affording relief, for she was at this time unable to move in the bed without assistance, and the dyspnœa had almost become intolerable. Before I proceeded to operate, I made another very careful examination, with a view to determine whether the fluid was contained in the peritoneal sac or in an ovarian cyst: for the enormous and uniform distension of the abdomen rendered the diagnosis rather difficult. The result inclined me to the opinion that the disease was ovarian.

On last Thursday morning, at 9 o'clock, I was summoned to my patient in great haste: I found her gasping for breath, and in imminent danger. Mr. Featherstonhaugh called in at the time; so, as I saw that no time was to be lost, I requested his assistance, to which he kindly assented, and we proceeded to tap her. I selected for the puncture a spot midway between the umbilicus and the pubes, using a large-sized trocar, and drew away nearly two gallons of a brownish glutinous fluid. There was no difficulty in the operation; and, by the adoption of the usual means for preventing the effects of the sudden withdrawal of so much fluid—viz. the gradual tightening of a sheet placed round the abdomen, and supporting the patient with a little brandy, which Mr. F. very judiciously and diligently attended to, together with my assistant, Mr. Leigh,—the extreme sinking we were apprehensive of, in her very low state, was in a great measure obviated. She felt immediate relief to the breathing after the discharge of the fluid; but it was evident, from the size the abdomen still presented, that more fluid remained, which the character of that taken away removed all doubt as to its being contained in another cyst. The resistant part of the tumor, owing to the now comparatively flaccid state of the abdominal walls, could be distinctly felt. The patient remained low for a few days; but, by means of animal broth and wine, she rallied at the end of this time. The bronchitis she had been troubled with for some time now grew very severe and distressing.

the medicines given her for this afforded her great relief, and she appeared for some days to be going on very well, having gained a little strength and an appetite, and being able for the first time to walk unassisted across the room. This apparent improvement was, however, of very short duration: she began to increase rapidly in size, her cough and breathing grew daily worse, and it at length became evident, from the rapid course of the disease, from the sallow and leaden hue of her countenance, and the strongly marked expression her features bore of the existence of some form of malignant disease, that she could not bear up much longer against the virulence of her complaint. With this impression I left her on the evening of Monday, the 8th instant, and on the following day, at 12 o'clock, I heard she died half an hour previously. I desired much to make an examination of the body, as it was a case I took great interest in; but, from having been invariably denied the privilege in other cases I have had under my care, I scarcely ventured to request leave to do so. In this case, however, having heard that the midwife already alluded to publicly reported through Gateshead that she still clung to her opinion that the woman was pregnant, and that the operation performed was but calculated to kill her, and that, if she had been allowed to go on without interference the result would not have been the death of the patient, but the birth of a child, and the existence of a mother still doing well—so unjustifiable an aspersion on the character of those medical men whom I asked to see the case, and who so perfectly agreed with me in my views, and one of whom so kindly and efficiently assisted me in the operation, and on my own also, could not be tamely submitted to,—so I urged the necessity of an examination on her friends, and most unexpectedly and fortunately they consented. On last Wednesday week, at 9 o'clock, nearly 22 hours after death, having secured the assistance of Dr. Barkus, I made an examination of the body. On opening into the abdominal cavity, which we did cautiously, in order to prevent wounding the cyst, which would have caused the flow of the contents of the again enlarged cyst into the peritoneal cavity—an accident calculated to embarrass our proceedings, and to cast a doubt as to the presence originally of fluid in that cavity,—we exposed the cyst again nearly distended with fluid: the spot where the former puncture was made was still visible. We, in order to prevent the occurrence just alluded to, tapped the cyst, and drew away about a gallon of fluid resembling that taken away during life, with the exception that it had a more offensive smell, and the last few ounces that came away had rather a jelly-like appearance and consistence. We then got a full view of the ovaries, and the right presented such an amount of disease, and so corroborative of the opinions pronounced during the patient's life by the gentlemen who saw her and by myself, that feeling also that it exhibited a very perfect illustration of that complete disorganizing process which these organs are liable to undergo, Dr. Barkus and I removed the uterus, a portion of the vagina, the right and left Fallopian tubes and ligaments, and fortunately succeeded in taking them away with us. In consequence of the approach of some of the deceased's friends who were averse to a post-mortem examination, we were prevented from making any further examination of the body; for the disappointment, however, we felt compensated by being able to preserve so interesting a specimen of morbid anatomy as that, Mr. Chairman and gentlemen, you now have an opportunity of examining. A wish that you should see this very beautiful specimen of ovarian disease, as nearly corresponding to its appearance after we removed it from the body as was possible, has induced us to defer any dissection of its component parts till after its exhibition here this evening. In the absence, however, of the minute examination I hope to make of every portion of its structure, I would venture to remark that at present I view it as representing that form of ovarian disease which writers describe as the encysted. We see it presenting every possible size of cyst, from the very minutest to the very largest: of the relative appearance and consistence of those cysts, still unopened, I cannot of course at present speak.

In conclusion I will add, that I regard this case, viewing it from its commencement to its termination, as presenting features involving points of singular interest to the physician, to the surgeon, and to the accoucheur. There is no necessity, I feel, to trespass on your attention by enumerating these points, as the history of the case renders them, I apprehend, sufficiently obvious. I have, in my report of the case, strove to steer clear of all irrelevant matters, to avoid all theories, and simply to submit the facts of the case for your consideration. I now, Mr. Chairman and gentlemen, submit the diseased ovaries for your inspection.

It was found that the fluid drawn off during life and at the post-mortem examination had been contained in one immense cyst, involving the whole of the right ovary: its external coat, formed by the original peritoneal investment, enlarged and thickened to a very great extent; the internal lining of the cyst appeared also of a serous character. Within this large cyst we found a multitude of smaller ones full of fluid, and varying in size from a pin's head to that of a large egg. On opening into one or two of these, we found that each contained a number of other cysts, one contained within the other, their walls separated by a layer of a thick albuminous fluid, and the deepest seated and smallest cyst of each group, when opened, presented to view a number of little papillæ, which were regarded as germinal cysts springing from the internal surface. In one part, occupying about one-third of the ovary, the cysts were very closely grouped together, and of a purplish colour, while the others were transparent: they were covered by a false membrane, and tied down at different parts by bands of the same, giving to the whole a resistant convoluted feel. This part of the diseased mass corresponded precisely to the situation of the rather hard feel of the tumor at one part during life. The contents of these cysts had a jelly-like appearance and consistence. The general appearance the fluid presented in the field of the microscope is thus described by Dr. Embleton:—

On the 17th of November last I examined microscopically the contents of some of the cysts of the ovarian tumor removed post-mortem by Mr. M'Donnell. Mr. Albany Hancock, who was present with Mr. M'Donnell, kindly made the drawings which accompany this note, and both Mr. M'Donnell and myself can testify to the correctness of his delineations.

Four specimens of the fluid from different cysts were examined. The fluid in all was of a colour varying from light straw to a brownish red, almost chocolate colour: it was thick, very tenacious, like thick mucilage or white of an egg,—to the naked eye uniform. On the application of heat it deposited a coagulum.

It was submitted to one-eighth of an inch object-glass, and 2nd eye-piece of Powell and Sealand's compound microscope. The most common appearance in the fluid was that of globules or cells: these were of variable size and figure, some about the size of pus-cells, others much larger, and almost all of them studded more or less closely with small nucleoli: no distinct nucleus was visible in any; a few were quite clear, presenting neither nucleus or nucleolus; all having, however, a much better defined figure and darker outline, and refracting light better than the ordinary pus-cells. Few were quite circular, many elliptic, many very irregular and fragmentary, most singly placed; others aggregated in masses. Many minute round cells like the nucleoli of the above were seen floating separately in the field, and some smaller amorphous particles were observed.

In three of the specimens examined were found large round or elliptical cells, from twice to four or five times the size of the largest of those first noticed. These appeared to be full of nucleoli, and were much more distinctly globular than any. No nucleus was observable in them. Diluted acetic acid did not appear to do more than make the nucleoli relatively somewhat higher.

In one specimen were circles fainter in outline by far than oil-globules, of very variable size, their interiors faintly granular, all except a clear space that ran round the inner surface of the wall; these varied greatly in size. They were also unnucleated, and it seemed even doubtful whether they ought to be considered cells or not.

Many of the cells were here and there intermixed with them; and in the majority of the specimens were seen numerous isolated, clear, acicular crystals, whose real form could not be made out: they were, however, flattened and bevelled off at one side at the end. Some of these crystals were aggregated together, forming a small layer. They were not examined chemically.

The cysts were endogenous, as seen on a section of the largest and several of the smaller ones, and many of them were confusedly matted together. They were confined to the ovary.

Excision of the Os Calcis.

Mr. **Greenhow**, the chairman, related two cases of excision of the os calcis alone, which operation had not to his knowledge been previously performed, and which possessed an advantage over the operations of Mr. Wakley and others, inasmuch as it left the patient the free use of the ankle-joint.

The first case was that of a pitman, who was admitted into the infirmary, June 15, with an abscess discharging from the left heel, and the adjacent tissues indurated and swollen. It was stated by the patient, that eight weeks previously, a nail had accidentally been thrust into the affected part. There was likewise a distinct sense of fluctuation below the outer malleolus. The foot could be flexed on the leg without causing pain. On introducing a probe, the bone was found exposed and carious: rested ill. Ordered poultices, and twelve grains of Dover's powder every night.

For a period of two months he continued in the same state as on admission, and there being little prospect of amendment, it was determined to remove the diseased os calcis, which operation was accordingly performed on the 15th August, in the following manner:—

First, an incision was made at the internal malleolus, and carried to the centre of the heel, where it communicated with a like incision, extending from the external ankle. A third passed transversely across the sole of the foot, to join the two former. Each malleolar flap was then formed by continuing the incisions along the external and internal margins of the foot. The flaps were dissected back, the tendo Achilles divided, and the knife being introduced between the astragalus and os calcis, the bone was forcibly disarticulated and dissected out.

On the 22d, the report stated that sloughing of the flaps had occurred, with swelling and redness of the integument on the back of the leg. An abscess formed in the calf a few days afterwards, and was opened. From this period he continued to amend in every respect, the abscess having gradually closed up, the tendency to slough in the seat of operation ceased, and the wound cicatrized favourably.

The second case was also that of a pitman, aged 29, who was admitted into the hospital, August 10th, 1848, with disease of the left foot, affecting principally the os calcis, which can be felt in a carious state by a probe introduced through several fistulous apertures.

The disease was stated to have commenced two years and a half previously, with spontaneous inflammation and subsequent abscess. For this disease he was under surgical treatment in this hospital some months ago, and some portions of diseased os calcis were then removed.

On the 15th August, another portion of diseased bone was removed, the patient being under the influence of chloroform. He continued to progress favourably after the operation, up to September 3d, by which period the incisions had nearly healed. The foot then became inflamed and tender, accompanied with œdema of the extremity as far as the knee. Considerable sympathetic fever likewise supervened.

The report of the 5th stated that the febrile symptoms had somewhat abated, but the inflammation had extended up to the knee. On the 8th, the erysipelas was principally confined to the foot, attended with œdema, and a greater lividity of the integument. An incision was made along the dorsum of the foot. From this period the inflammation gradually declined, and the wounds healed up, with the exception of several fistulous apertures on each side of the foot, through which the bone (os calcis) was felt extensively diseased.

On October 17th, removal of the diseased os calcis was determined on, and the operation was accordingly performed, in a similar manner to the preceding case.

The report of November 10th stated that the wounds had almost healed up, and that the deformity was not very great.

In the first case the patient retains the use of the ankle-joint, and is already capable of bearing considerably on the affected limb.

Perforating Ulcer of the Intestines.

Mr. Greenhow also related a case in which a perforating ulcer of the intestine, of long standing, had caused death shortly after the performance of the operation of lithotomy.

The patient was aged 72, a husbandman, and admitted into hospital November 2d. He stated, that six months previously, he laboured under pain in the region of the kidneys, and at the same period had frequent and painful micturition. These symptoms, in a less urgent degree, had existed for several years, and required the occasional use of the catheter. His habits had been temperate; pain experienced in the sitting posture; functions all in good order, except sleep, which is impaired. On examination, a stone can be felt near the neck of the bladder; urine loaded with mucus, of acid reaction, and coagulable by heat—Ordered: the occasional use of the warm bath, castor oil, and a dose of Dover's powder, with Hydrarg. cum Cretâ at bed-time; also a mucilaginous mixture, with Nitrate of Potass and Tincture of Henbane, to take during the day.

On the 7th November the operation of lithotomy was performed, and a calculus, weighing two ounces, together with several smaller ones, were extracted. Half an hour after the operation slight bleeding occurred, which ceased on a plug being introduced—Ordered an opiate.

The report of 8th stated that the patient had passed a good night—that the urine passed freely through the wound (which looked healthy). No constitutional disturbance, except occasional but not severe hiccough — Ordered beef-tea and mutton broth, and likewise a carminative mixture every four hours.

In the evening the hiccough had abated; bowels confined — Ordered an opiate; castor oil in the morning.

He continued to progress favourably till the 9th, when he complained of slight tenderness of the abdomen. Pulse small and quick; the wound looked somewhat sloughy; urine voided freely; bowels confined. No tendency to a return of hiccough—Ordered fomentations, castor oil, and to continue the mixture previously ordered.

The evening report stated him to be in the same condition as in the morning. Pain in the abdomen not materially increased. Bowels had not acted. Slight pyrexia—Ordered pills, with Calomel and extract of Henbane, immediately, and a purgative mixture, to be taken every two hour still the bowels acted.

10th.—A tendency to sinking became manifest, unaccompanied by any urgent symptoms; slight tenderness of abdomen still existted. The bowels had acted freely, and the urine passed copiously from the wound; the latter presented a sloughy appearance — Ordered brandy and beef-tea occasionally.

He continued to sink, and expired at 2 o'clock A.M.

Post-mortem, a few hours after death.—Slight patches of peritoneal inflammation found in the abdomen. The coats of the *bladder* were much thickened, and mucous membrane corrugated. The *prostate gland* much enlarged and indurated; the incision through it correct. *Ureters* healthy. A small calculus occupied the neck of the bladder.

In the left hypochondriac region, much fæculent matter was found, issuing from an ulcerated circular opening a quarter of an inch in dameter, at the junction of the transverse and descending colon. The mucous membrane was pale, and presented in several other places patches of ulceration, which extended nearly through the intestinal coats. The other viscera were healthy, except the left kidney, which was slightly congested.

REMARKS.—The immediate cause of death in this case appeared to be solely the perforation of the intestine, as the parts concerned in the operation were progressing favourably.

WESTMINSTER MEDICAL SOCIETY.

Saturday, December 2.

MR. HIRD, PRESIDENT.

Disease of the Tricuspid, as also of the Mitral and Aortic Valves, consequent on Rheumatic Inflammation.

DR. R. C. GOLDING showed to the Society a preparation of this rare form of disease, taken from a young woman, a dressmaker, aged 24, who died a few days back of acute pleurisy of the right side, and bronchitis. The patient has been under Dr. Golding's inspection, and often treated for rheumatism by him for more than three years. Dr. Child attended her during her last illness, but with great courtesy invited Dr. Golding to the autopsy. The cardiac disease has lasted for six or seven years: the cardiac symptoms have not materially varied since she first came under Dr. Golding's inspection. The health of the patient, when free from rheumatism, was tolerably good; and as great caution in diet and regimen was enjoined and punctually observed, her life was prolonged, till the accession of the pleurisy and bronchitis, for which Dr. Child attended her. The physical signs indicated great hypertrophy of the heart, with double valvular disease of its left cavities. Dulness was appreciable along the lower half of the sternum, as high on the right of it as the cartilage of the third rib, and on the left to the second rib. The apex was beating between the seventh and eighth ribs; three inches at least more externally than in health. The sounds were feeble; the rhythm, under ordinary circumstances, not impaired; the impulse strong; and the pulse full and bounding. There was a double murmur at the apex, and a very loud and rough diastolic one at the upper part of the sternum, at its sides, and along the neck. The autopsy revealed great thickening of the *tricuspid*, mitral, and aortic valves: the two former orifices formed perfect rings, and must have been patent during life; the pulmonary valves were healthy; the calibre of the aorta above the valves was much contracted. The pericardium was thickened, but nowhere adherent or unduly vascular. There was recent pleurisy of the right side, great congestion of the lungs, together with a little emphysema here and there. The gall-bladder contained a few small calculi: nothing else was noticed irregular or morbid. Inspection of the specimen has been conclusive to all, that rheumatism was the cause of the valvular lesion in both cavities of the heart; that the same disease, influencing the valve in precisely the same manner, and relatively in the same degree, existed in both tricuspid and mitral valves; and that the perfect rings formed by the adhesion from inflammation of the divisions of the valves respectively (together with thickening, shortening, and adhesion of their chordæ tendineæ), must have been attended, during life, with permanent patency of their orifices. The specimen now belongs to Charing Cross Hospital.

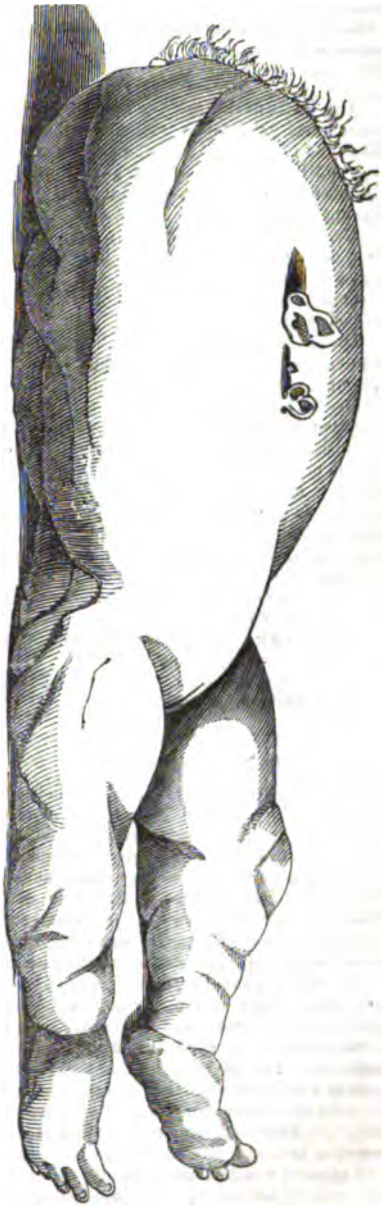
DR. WM. MERRIMAN narrated a case which presented many symptoms of laceration or rupture of the uterus. A woman, aged 28, in labour of her third child, was found with the os uteri fully dilated, membranes dilating the vagina, and the vertex presenting over the pubis. The membranes having speedily ruptured, the head descended, but not so as to occupy the whole brim of the pelvis; on the contrary, very violent pains drove it rather against the pubis and fore part of the vagina. After an hour's duration of unusual suffering, chloroform was exhibited for two hours, in hopes of mitigating the suffering, while the pains propelled the head gradually downwards: but this not ensuing, three doses of ergot were given, without any pains succeeding. Vomiting and tenderness of the abdomen came on about this time, to relieve which the patient had forty minims of laudanum. After some hours, it was found that the head had been completely retracted; and the constitutional disturbance still continuing, Dr. Chowne's advice was sought, and the woman was delivered by turning, twelve hours after the cessation of the pains. The child lay very high up, yet still within the uterus, and the hand was first reached. The child was, however, dead; the uterus contracted well. By careful watching, the patient had very much recovered, and Dr. Merriman had considerable hopes of her recovery, ten days having elapsed since the labour.

Saturday, December 9, 1848.

Mr. Harvey exhibited

An Acephalous Monster at the Full Period of Pregnancy.

Another child accompanied it, but was remarkable for its badly-nourished condition; the funis was small and short; there were two placentæ; that belonging to monstrosity was very large. When the creature was born, the integuments presented a dark blue colour above the umbilicus, and below it a pale red. The exterior view presented no head or upper extremities; the inferior extremities large and well-formed, and terminating in club-feet; the left foot had three toes, the right five, each furnished with a nail. On the fleshy substance above and between the shoulders, representing the head, were observed some slight tufts of hair, and two button-shaped fleshy substances, the one in the centre and the other to the right side; the external organs of generation were well marked as a female, and the anal aperture communicated with the intestinal tube. An incision was made through the centre of the body, with the view of inspecting the parts within: it brought into view a cavity containing the base of the skull resting on the atlas on either side, bounded by the ribs; neither clavicle nor sternum was present. The cavity was filled with loose cellular structures and a sac, which would contain about a tea-spoonful of fluid, the internal layer of which resembled the fibrous structure of the auricles of the heart. The connection of the sac was made out with the umbilical vessels, but none could be discovered running from it: perhaps this was in consequence of decomposition. A large vessel, probably the aorta, took the course of the vertebral column on each side, and terminated in four distinct branches at the sacrum, two running to the anterior part of the thigh, and two to the posterior. There was an absence of all the viscera of the abdomen, excepting the intestinal tube, which was closely adherent to the abdominal parietes. The urinary organs and the internal organs of generation were also absent: the spinal portion of the skeleton was greatly incurvated, and on each side of the three upper ribs was a loose portion of bone resembling a scapula. The



spinous processes of the vertebra were much enlarged, and the vertebral canal was filled with spinal marrow; the nerves arising from it were observed to be large and irregularly distributed. A very little muscular structure was observed; the anterior parietes of the abdomen were composed solely of common integument and adipose structure. The preceding engraving represents faithfully the external appearance.

Fatty Kidney.

Dr. Lankester exhibited a fatty kidney, which had been taken from a patient who had died of phthisis, and who had been taking cod-liver oil. Was there any connexion between the condition of the kidney and taking that medicine?

Dr. Tanner had seen such a fatty condition of the kidney, and of the liver also, in cases of phthisis.

Some discussion took place on the value of cod-liver oil in phthisis.

Dr. Lankester had used it with the advantage of getting the patients into a plumper condition: it did not cure.

Dr. A. T. Thomson had used it as an adjunctive medicine, with much success, in phthisis. It appeared to act more as an article of diet, and produced a deposition of fat, by affording increased nutrition. It seemed in this way to arrest the development of tubercles. Patients under its use lost the night perspirations. It was useful, also, in cases of lupus and scrofula.

Mr. Horne had seen it of much use in cases of phthisis.

Dr. Chowne thought it of advantage in the incipient stages of phthisis.

Mr. Hird had used it with benefit in cases of scrofula and phthisis.

Dr. Lankester read a case of

Poisoning by Opium.

An Irish woman, aged 40, was admitted into University College Hospital, at eleven A.M., on April 8. She was supposed to have taken opium, and had been brought to the hospital six months previously, under the same circumstances. Her face and hands were livid; there was no pulse perceptible at the wrist; the breathing was slow, laborious, and accompanied with a loud mucous rhonchus. The carotids beat irregularly, about fifty in the minute. The accompanying coma was profound. The stomach-pump was applied, and coffee, with ammonia, injected into the stomach. The patient was undressed, and several pitchers of cold water were poured over her from a height. This had the effect of slightly arousing her, but the surface became cold, and she was wrapped in blankets, and her feet put in hot water. She drew her feet out of the water. Some more warm coffee was administered by the stomach-pump at half-past twelve; the coma still continued; the surface was cold; no pulse at the wrist; the breathing stertorous. She was put into a hot bath, which had the effect of causing a momentary return of sensibility; after this she began to swallow, and more coffee was administered, with ammonia. At two o'clock the symptoms were worse; the pupils, which at first were not remarkably contracted, became so. The coma increased, and the breathing became more stertorous and embarrassed: an enema of turpentine was administered, but no improvement took place in the symptoms. The difficulty of breathing and coma increasing, she was bled to six ounces from the arm. The symptoms slightly improved. An attempt was made to walk her about the ward, but no sooner was she placed in an upright position than the respiration became embarrassed, and the coma increased. Under these circumstances the electro-magnetic battery was employed, and currents of electricity were passed through the shoulders, chest, abdomen and anus, and legs. Under this treatment the symptoms improved; the pulse became perceptible at the wrist; the tendency to drowsiness continued to a greater or less extent *till* ten P.M., but was effectually prevented by passing a weak electric current through both arms. When recovered, she stated, that at five o'clock the previous evening she had taken a shilling's worth (about two ounces) of laudanum. She had therefore been eighteen hours under the influence of the poison before any treatment was commenced. She was discharged from the hospital, but was subsequently re-admitted, with gangrene of the lungs, of which she eventually died. The post-mortem examination revealed a tuberculous condition of the left lung, and a large cavity, produced by gangrene, on the right lung. The author drew attention to the following points:—1. The condition which the patient was in when brought to the hospital. The symptoms were of such a nature, that all who saw her despaired of affording any relief, and only a sense of duty prompted me to make an effort for the rescue of the patient. 2. The benefit experienced in the use of cold affusion in this case would warrant its application in similar cases, or wherever the same combination of symptoms was present. 3. From the effect of the ammonia and the turpentine enema in this case, it may be inferred that such stimulants are amongst the remedies in cases of poisoning by opium which should not be had recourse to but under the most urgent circumstances. The condition of the nervous system is very different in coma from narcotic poisons, and coma from mere congestion. 4. The reaction which was observed at two o'clock, and attended with more decided symptoms of narcotism, may, perhaps, serve to explain the cause of death in cases where persons have apparently recovered from the effects of narcotic poisoning, and afterwards again sunk. 5. The evident advantage of using the electro-magnetic apparatus as a means of arousing the sensorium in cases of poisoning by opium, especially when, as in the present case, other means cannot be well employed. 6. The tuberculous condition of the lungs may raise the question as to whether this was the result of the depression brought about by the poisoning, or whether, rather, this condition was not present when the poison was taken, and contributed to that congestion of the lungs which was so remarkable a feature of the case, and brought on the gangrenous condition of these organs, of which the woman died. 7. The non-contracted condition of the pupils, and the want of opium smell in the contents of the stomach, are points worthy of notice in this case.

A communication was read from Mr. Brown, stating that he had used collodium with advantage in cases of sore nipples.

Correspondence.

ON THE ALLEGED GOOD EFFECTS OF POWDERED CHARCOAL AND CARBONIC ACID IN THE TREATMENT OF CHOLERA.

[The subjoined letter comes to us through a highly respectable source, and we have therefore given it a place in our columns. The good effects of charcoal in arresting diarrhœa have been long known. The only point which is open to discussion is how far an inert substance like charcoal can really have had the effect of restoring a patient in whom the collapse of cholera has commenced. We do not see how carbonic acid, in effervescing drinks, can be compared in its therapeutical action to charcoal.]

Sir,—I do not belong to the medical profession, but, by chance, my attention, some little time ago, was drawn to a mode of treating Asiatic cholera, which has been more successful than any other yet adopted; and as no one else is doing so, I feel it to be my duty to submit it to public notice.

The specific to which I refer was first brought into notice by a Dr. John Parkin, an English medical man, residing at the time in Spain. It consists in the use of carbon or charcoal, or, what is found still more efficacious, of carbonic acid gas, *recent preparation being an essential condition of success*. The results of his own experience, and those of several other medical men, in the employment of these remedial measures, are to be found in a small work which that gentleman published in the year 1836, and which was, at the time of its appearance, most favourably noticed, and considerable weight has been attached to his statements by some of the first medical authorities.

The author's employment of these remedial agents had been almost uniformly successful. His own language is—"As far as my own experience and observations go, the above treatment, if adopted at the commencement of the collapse, is all that is required; *for I have never met with more than three cases of failure, out of many thousands to whom I have either given the remedy myself or known it administered by others.*"

Now, here is an announcement surely well worth the attention of the public and of the medical profession. If it is correct, and it must be in great part true,—unless, indeed, Dr. Parkin is entirely devoid of sense and honesty,—we must be approaching to something like an antidote to this disease.

A Dr. Wilson, too, residing at Xeres, in Spain, and who had adopted Dr. Parkin's views on the subject, was equally successful in the employment of carbon: for the preparation of which, during the prevalence of the disease in that town, he kept several persons constantly employed. He was assisted in its administration by two or three non-professional gentlemen, who nobly volunteered their services on the occasion. From one of these volunteer assistants I have just had the good fortune to receive, through the exertions of a kind friend, an interesting communication on the subject.

He says, "what we used, and with *great* success, was simply charcoal, and in the following form:—Common charcoal was powdered down to a fine powder, and passed through a small sieve. This powder was put into a crucible, with a top or cover, cut to fit close, and made tight with wet clay, so as to admit no air excepting through four or five perforations, made in the very centre of the cover. The crucible thus filled and closed, was put on a bright charcoal fire, and left there till the last appearance of flame from the holes in the cover had ceased. It was then removed from the fire, and allowed to cool down."

"We used," continues the writer, "to administer it (the charcoal) in doses of from one tea-spoonful to a table-spoonful, or even more. When attacked by the cholera myself, such was my confidence in the efficacy of the remedy, that I took as much as half a tumblerful, mixed with a little cold water. I can aver, that in the first stages of the disorder, that is, when the bowels begin to be loose, it was *almost always* efficacious; and I look back with satisfaction to a period when, by using this remedy, I was, under Providence, enabled to save many lives."

Mr. Wilson not only found the carbon a remedy for this disease, but he also found it efficient as a preventive. No one, he says, who took a dose of charcoal morning and evening, was ever attacked with the cholera, though many who so treated themselves experienced the premonitory symptoms.

In the letter just quoted, it is said that *charcoal* was put into the crucible, but, of course, *coal* would do as well.* Lead is what is mentioned in a recipe which I have just received from Spain, through the kindness of another friend.

In other quarters of the world, carbon has been also used in the treatment of this malady, with equal success. In the narrative of that disease, published in the Lancet, it is stated, according to Dr. Parkin, that an exceedingly simple remedy was used, and, it is said, with unprecedented success, on board the ships belonging to the United States. A common bottle cork was burnt, and the powdered coal given in a little milk or water. The third dose, at most, was sufficient to allay the urgent symptoms, and we are assured that it has more than once saved patients almost in the agonies of death.

In Canada, a singular and strange-looking person, with much mystery in his manner, and mummery in his proceedings, professed to cure this disease during its ravages in that country.

He was eminently successful, and that simply by the use of carbon, aided, doubtless, by the confidence which his success inspired, and by the circumstance of his uniformly preparing the carbon at the time it was to be administered.

Dr. Parkin proceeds to give attestations in favour of his remedial measures from a few Spanish practitioners. The last he refers to, uses very decided language indeed. The person referred to is a Dr. Pascual, of Mataro, and the vehicle of his sentiments is a paper which he addressed to one of the Madrid medical journals. He writes thus—"The continued announcement of specific remedies for counteracting the effects of this destructive disease, and their inefficacy, inutility, and detriment in the hands of the physician who has trusted to the unbounded praises with which they have been enhanced, will, perhaps, cause this new remedial agent to be viewed as another of the numberless advertisements which have adorned the corners of the streets, and filled the columns of the newspapers. Impressed with a conviction of the necessity and obligation by which the clinical observer and historian is bound to use the language of sincerity and freedom; and impelled solely by a desire to be useful to humanity and science, I am going to present the result of the administration of carbonic acid gas, in the cholera morbus of the town of Mataro, from the 8th day of October to the 12th of December, 1834." Making a little allowance for the inflated style of wording adopted by the Spanish, this exordium must impress the reader deeply with a sense of the sincerity of Dr. Pascual's convictions as to the efficacy of the treatment referred to.

Dr. Parkin had happened to put himself in communication with Mataro just as the system (the antiphlogistic) which had been adopted in that town had fallen into utter disrepute; so that its medical practitioners were ready to make trial of any new mode of treatment which might be suggested. "This" (the adoption of carbon) "happened," says Dr. Pascual, "in the period of the ascent of disease. But what was our pleasing surprise when we really saw all the patients who summoned us before the state of collapse had become developed, change, as by enchantment, their morbid condition under the immediate influence of the gas! . . . The several practitioners mutually relate to each other the pleasing change which they observed in the sick; so that we were able to prognosticate, with all the probability of which the science of medicine is susceptible, that a patient who took carbonic acid before the period of asphyxia generally recovered speedily and securely."

After detailing the effects which the successive doses generally produced on the patient, Dr. Pascual proceeds—"Do not suppose, gentlemen, that I overcharge in any respect this medical recital. Fourteen practitioners would, I am certain, put their signature to any testimony which might be required from their honour. Persons of the first rank in this city proclaim openly the advantages which they experienced from this remedy. All the objections which can be made against the especial efficacy of the carbonic acid in the cholera morbus of this city are thrown down at the feet of the appreciable multitude of practical facts that I, the other practitioners, and, in particular, Dr., Rabasa, physician of the hospital, have collected."

Dr. Parkin states that the individuals attacked in Mataro amounted to upwards of 1000, and the deaths to about 60. Of this number, however, between 20 and 30 died previous to the employment of carbonic acid in that town.

I have every reason to think that the evidence afforded by the Spanish practitioners referred to is in every way to be relied on; one of them, as was just mentioned, being at the head of the hospital of Mataro; but as to Dr. Wilson, our countryman, I have received the most unquestionable assurance of his high respectability, professionally and as a gentleman.

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* The coke of coal is far from being so pure a form of carbon as a pure charcoal.—E. G.

We repeat, then, surely the statements made in Dr. Parkin's volume are worthy of the attention of our medical gentlemen, and the practice which it recommends worthy of an actual and fair trial.*

It is quite possible, however, that a mode of treatment which was greatly successful in the comparatively mild climate of Spain may not offer exactly the same results as this. Each country may have its own type of cholera. The antiphlogistic may succeed in India, effervescing draughts in the Peninsula, and carbon in Canada; but none of these may *wholly* succeed with us.

I should think, however, that the most likely way for any given country to succeed in its search after an antidote to this malady, is carefully to make trial of those remedial measures which have been most successful in other countries, modifying them according to circumstances.

With the physiology of this mysterious malady, as conjectured by Dr. Parkin, the public have nothing to do. The question with them is simply—what has carbon or carbonic acid actually done in arresting this pestilence? Let it be granted that Dr. Parkin is, as indeed in his own position he must be, somewhat of an enthusiast,—that his facts must have fallen upon his vision somewhat refracted, seeing that they are viewed through the medium of a new theory, and that consequently there is something to be deducted from the amount of our confidence, whether in his general statements or in his details; still, all this is more than compensated by the strong — nay, urgent—recommendations in its favour on the part of individuals at once perfectly disinterested, and in every way qualified to judge correctly in such matters, and enjoying every facility of observing and testing the concurrent and ultimate facts.

This communication on what Dr. Parkin calls "the antidotal treatment of the epidemic cholera," if of no other use, will be the means, at least, of making known the important and valuable fact that, in the case of individuals attacked by this awfully rapid disease, and apart from medicine and medical assistance, if they will only take a bottle-cork, char it, reduce it to a fine powder,—take this powder, mixed with a little cold water or milk, in quantities of from a tea- to a table-spoonful, and that in intervals of about two or three hours,—they will greatly add to their chances of repelling the attack.—Yours, &c.

J. C.

Paisley,
October 28, 1848.

ALLEGED GOOD EFFECTS OF THE INHALATION OF CARBONIC ACID IN THE TREATMENT OF MALIGNANT CHOLERA.

SIR,—As it may interest some of your readers to know that the inhalation of carbonic acid gas in Asiatic cholera has suggested itself to others besides Dr. Parkin, I take the liberty of forwarding to you the accompanying extract from a letter which I have lately received from Dr. Luther, a medical officer of the Russian army, stationed in the Caucasus. The communication was not written with a view to publication, and under other circumstances I should have hesitated to publish it, but on account of the length of time that would elapse before I could obtain further particulars, and a more accurate and scientific statement of the facts from my friend, I think I am warranted in submitting his remarks to your readers.

It might be worth while to examine whether the cases which are benefited by chloroform, the trichloride of carbon, and carbonic acid, do not present some peculiar analogy. The chemical formulæ, as well as the positive statements of the effects of these substances by their respective advocates, would almost seem to indicate some unexplained bio-chemical relation between certain carbon substances, and the morbid condition existing in the cholera patient.

I have only to add, that the letter is written in German, and to hope that due allowance will be made for the looseness of the epistolary style.

I remain, sir,
Your obedient servant,
E. SIEVEKING, M.D.
Brook Street, Grosvenor Square.

"The course taken by the cholera from east to west, permits the assumption that you will be attacked in England in the course of this or next year. During my residence in Tiflis, I have been much engaged with the disease; I have made about 60 to 70 post-mortems, and have attempted every variety of treatment. I have arrived at the conclusion that there is no certain mode of treatment adapted to every case. The physician who pursues a rational mode of treatment, and adapts it to the dynamic character of the disease, is likely to be most successful. The pulse is the safest guide. Here the opinion prevails that venesection is in every case the first and chief remedy, even in cases in which the pulse is scarcely perceptible. This system, which I may remark, *en passant*, originated in England, is likely to be serviceable when the pulse still presents a certain amount of energy, and there is intense pain at the pit of the stomach. In these cases the application of cold damp sheets is often advantageous if the skin still presents a certain amount of reaction in producing critical perspiration. But those cases invariably proved fatal when venesection and calomel were employed, in which the pulse was small, and there was general namia.

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* The accuracy of the facts can so far be tested by the Board of Health opening a correspondence with the authorities or medical boards in Xeres or Mataro. I have tested them, as regards the former town, by a communication just quoted, from a respectable merchant who acted along with Dr. Parkin in administering the medicine.

"In such cases a solution of camphor in ether revived the patients, postponed the fatal issue, and allowed time for the application of energetic remedies. In violent spasms of the calves, the application of leeches to the lower part of the vertebral column, were occasionally serviceable,—for I invariably found softening of the lumbar region of the spinal cord in the dead subject. The post-mortem inspection invariably showed in the abdominal cavity, in the spinal column and brain, venous congestion, resembling apoplexy. On the other hand, the lungs presented fine, frothy, bright red blood, appearing, on section, in small microscopic vesicles. This condition of hyperoxydation in the lungs, suggested the idea to me of trying a mode of treatment which had not been attempted before, and I have derived more benefit from it than from any other. I had those patients who still retained a certain amount of vital energy, brought into a separate room, shut up the doors and windows, and had a brazier with charcoal introduced into the room. The inhalation of the carbonic acid gas was continued for from five minutes to half an hour, or more: it caused an undoubted cessation of the cholera symptoms in many cases; and many who, without this remedy, would have been a prey of death, recovered.

"In most cases, a condition resembling cerebral typhus was developed; the patient lay unconscious, with a purple face, enlarged pupil, and a parched skin. In these cases, cold douches would undoubtedly have been serviceable, but it was inapplicable in the hospital. Thus, some who might otherwise, according to my conviction, have been accessible to the beneficial effect of art, succumbed, but some recovered from this congestive state, under mere expectant treatment. In a disease in which every thing so often fails us, it may be worth while to make an experiment with the inhalation of an atmosphere containing carbonic acid. It is a matter of course that these remarks do not apply to the cholera in which we only see the patient with cold extremities, and pulseless. Here there is no hope. Death is the only relief for the sufferings of such patients."

⁂ The plan suggested in this letter of placing the patients in a room in which carbonic acid is derived from the combustion of charcoal, is not unattended with danger. The *vapour of charcoal* and *carbonic acid* are not exactly identical; and as the oxygen of the air is rapidly consumed in the production of the vapour, there is imminent risk of suffocation. What turn will the medical treatment of this disease take next? Some respectable practitioners write to say that as the blood is highly carbonated, and that it has too much of a venous character, they have caused oxygen to be inhaled, and with great temporary success. On the other hand, we have here a statement that the blood in the lungs is in a state of hyperoxydation, and that carbonic acid is the remedy! We do not see how these diametrically opposite plans of treatment can be reconciled upon any theory connected with the stages of the disease, or the influence of climatic and constitutional causes. In the stage of complete collapse, all agree that no treatment is available. If compelled to choose, we should prefer oxygen, as there is a smaller chance of suffocation. It should be remembered that a quantity of carbonic acid which may be safely taken into the *stomach*, would infallibly cause death if introduced by inhalation into the lungs.—ED. GAZ.

ON COLLODION AND ASBESTOS AS A REMEDY FOR TOOTH-ACHE, AND A MATERIAL FOR STOPPING TEETH.

SIR,—I request the favour of the insertion in your valuable journal of the following, which may be interesting to many of your readers.

Since the appearance of Mr. Wilson's paper on Collodion in the "Lancet," I have frequently applied it in severe cases of toothache arising from exposure of the nerve, with perfect success, when no persuasion could induce the patient to submit to the radical cure (extraction), either with or without the use of chloroform or ether.

The method I usually adopt is to let the patient wash the mouth with warm water, in which a few grains of bicarbonate of soda have been dissolved. I then remove from the cavity any foreign substance likely to cause irritation. After drying the cavity, I drop from a point the collodion, to which have been added a few grains of morphia; after which I fill the cavity with asbestos, and saturate with collodion, over which I place a pledget of bibulous paper: in a few seconds this becomes solidified, and forms an excellent non-conductor of heat and cold to the exposed nerve. By occasionally re-sewing this, I have been enabled to effect a more durable stopping than with gold.

I remain, sir,
Your obedient servant,
James Robinson.
Gower Street, Bedford Square.

Selections from Journals.

SURGERY.

ON THE APPLICATION OF VULCANIZED INDIA-RUBBER TO THE TREATMENT OF VARICOSE VEINS.

Dr. Hargrave states that he has found the application of vulcanized India-rubber, in the form of a ring or garter, to be constantly worn on the leg, as a very efficacious method of treatment. The following cases are related corroborative of this statement:—

—— Tuite, a servant, æt. 47, admitted into hospital November 9th, 1847; now, and for some time, of temperate habits, with an extensive varicose ulcer on the inner and anterior part of the left leg, the veins being in a very varicosed condition, with their capillaries exhibiting a great tendency to be ruptured. The veins of the right leg were also in the same condition. He was treated by means of position and the lotio nigra, attention being directed to the regular action of the bowels. For a week he had the leg bandaged, from the toes to the knee; when I cast off the bandage and substituted for it a garter, applied immediately below the knee, made of tape inch wide, into which a piece of vulcanized India-rubber was inserted. This garter or ring was, to a certain degree, less in circumference than the leg, and was placed *in situ* by stretching it and carrying it over the foot, ankle, up the limb, to its situation a little below the knee. The man experienced the most marked comfort from this kind of bandage, so as to ask for one for the other leg. The roller was discontinued, and under the use of the garter the ulcer healed rapidly, so as to admit of his discharge with it firmly cicatrised, on the 14th of December.

Mary M., æt. 40, seven months pregnant; extensive varices of both legs, with minute dark-coloured capillary vessels in different parts of each leg, representing a pencilliform appearance. Each leg was also swollen. The saphena of both thighs was also varicosed, and extremely convoluted for a space equal to the palm of the hand in the centre of the limb. She also complained of considerable pain in the legs. On Saturday, May 27th, the garter was applied to the left leg. June 1st. Pain almost gone; tumid condition of the leg less; expresses herself much relieved by the use of the garter. 6th. Pain gone; tumid state of the leg much diminished; veins less, and feels herself decidedly better. Garter applied this date to the other leg. 17th. The left leg continues still well, and the fulness more diminished; the right one is also improved, but not to the same degree as the other leg.

—— Gallagher, a blacksmith, æt. 50; large varix on the inner surface of the calf of the right leg; also one forming at the anterior and inferior aspect of the tibia, to which some pain is referred. Garter applied to-day, June 1. On the 3d, some trifling œdema of the leg, as the garter was at its maximum of tightness, but no pain; that which was complained of in the anterior and inferior part of the tibia gone, and the cluster of varicose veins less. He has not applied at the hospital since the date mentioned.

—— Connor, varicose veins of the right leg, with an ulcer on the anterior part of it. June 7th. Garter applied. 21st. Second visit to the hospital; the veins better; the ulcer on the leg healed, and states that the leg is stronger. Owing to the pressure being a little too tight, a slight excoriation formed on the external part of the limb underneath the garter, which could have been prevented if he had taken but moderate care of himself, and attended the hospital for examination. A new one is being made for his use.

The simplicity and facility of application of this garter can recommend its adoption in such cases. In these instances the great benefit derived from it was the support it gave to the veins, which, if overloaded on the distal side, it was merely necessary to stretch the garter, when the *veins were instantly seen to empty themselves.* For prolonged use I think it will supersede the laced stocking and the roller, either of which, by the general compression of the limb, causes the wasting of the muscles and of the soft parts, as I have often witnessed in those individuals who have worn one or other of these bandages for a few years, and produces also a certain amount of debility. No such risk is incurred by this means of support, nor any danger to be apprehended by creasing or unequal pressure of the integuments causing fresh ulceration, if but ordinary attention is paid in wearing it. The patient is also saved from the inconvenience, which to some is of some amount, of the extreme heat of the leg caused by the laced stocking. —*Dublin Medical Press.*

Dr. Hargrave has also employed with benefit this species of elastic bandage in a case of nævus, and it might be, perhaps, advantageously used in the umbilical hernia of infancy.

CESSATION OF THE CHOLERA AT BERLIN.

There has been no case of cholera in Berlin since the 21st of November, and on the 28th the last patient was discharged cured. The city is now, therefore, officially declared free from the disease.—*Times.*

MARLBOROUGH COLLEGE, WILTS.

On Wednesday, the 13th inst., the Council of this College proceeded to a final decision in the election of a Resident Medical Officer. Dr. Fergus, the House Surgeon of the Infirmary at Stafford, was the successful candidate.

ROYAL COLLEGE OF SURGEONS.

The following gentlemen were admitted members on the 15th inst.:—Messrs. C. Pryce—C. Drage—B. J. Burton—T. Ferguson—S. N. Squire—H. Rogers—D. N. Frampton—W. O. Keefe—S. Bowen—and J. K. Tuke. Mr. A. Brown passed his examination for Naval Surgeon; his diploma from the College is dated June 27th, 1842.

APOTHECARIES' HALL.

Names of Gentlemen who passed their examination in the science and practice of medicine, and received certificates to practise, on Thursday, 14th December, 1848:—Joseph Stewart Burton—Frederick Dicker Fletcher, Canterbury—Thomas Ward Boswood—Joseph Harvey, Milford, Derbyshire—Henry Sanders Grant, Northampton.

BOOKS & PERIODICALS RECEIVED

(The List will be given in our next No.)

METEOROLOGICAL SUMMARY.

Mean Height of the Barometer .... 29·88
" " " Thermometer[a] ...... 50·2
Self-registering do.[b] .... Max. 75° Min. 34°

[a] From 12 observations daily. [b] Sun.

Rain, in inches, 0·93.—Sum of the daily observations taken at 9 o'clock.

Meteorological.—The mean temperature of the week was 10·4° above the mean of the month!

BIRTHS & DEATHS IN THE METROPOLIS

During the Week ending Saturday, Dec. 16.

Births.		Deaths.		*Av. of 5 Aut.*	
Males....	718	Males....	579	Males....	581
Females..	679	Females..	551	Females..	573
	1397		1130		1154

Causes of Death.		*Av. of 5 Aut.*
All Causes	1130	1154
Specified Causes	1128	1149
1. *Zymotic* (or Epidemic, Endemic, Contagious) *Diseases*	360	370
Sporadic Diseases, viz.—		
2. Dropsy, Cancer, &c. of uncertain seat	55	52
3. Brain, Spinal Marrow, Nerves, and Senses	102	127
4. Lungs, and other Organs of Respiration	185	222
5. Heart and Bloodvessels	41	38
6. Stomach, Liver, and other Organs of Digestion	62	67
7. Diseases of the Kidneys, &c.	12	12
8. Childbirth, Diseases of the Uterus, &c.	12	14
9. Rheumatism, Diseases of the Bones, Joints, &c.	7	8
10. Skin, Cellular Tissue, &c.	2	2
11. Old Age	37	64
12. Violence, Privation, Cold, and Intemperance	35	32

The following is a selection of the numbers of Deaths from the most important special causes:

Small-pox	24	Paralysis	14
Measles	20	Convulsions	44
Scarlatina	113	Bronchitis	79
Hooping-cough	45	Pneumonia	86
Diarrhœa	24	Phthisis	87
Cholera	29	Dis. of Lungs, &c.	5
Typhus	68	Teething	7
Dropsy	23	Dis. of Stomach, &c.	8
Sudden deaths	23	" Liver, &c.	12
Hydrocephalus	34	Childbirth	6
Apoplexy	20	*Dis. of Uterus, &c.*	2

Remarks.—The total number of deaths was 24 below the weekly autumnal average. See page 1060.

NOTICES TO CORRESPONDENTS.

The Sydenham Society.—A correspondent wishes to know what is the cause of the delay in the promised publication of medical works by the Sydenham Society. He complains that, although a subscriber, he has had no book for the current year.

Mr. Solly's lecture will be inserted in the following number.

Communications have been received from Dr. Milroy, Dr. Collins, and Dr. W. P. Brookes, Dr. Fergus.

Corrigendum.—In the report of Dr. Little's lecture, in our last number, for Dr. "Satro," read Dr. "Sutro."

THE GENERAL INDEX.

We have to announce to our Subscribers that a General Index to the *first* 40 *Volumes* of the London Medical Gazette will, it is calculated, form a large Volume of about 700 pages. The cost of the Index Volume, respecting which many inquiries have been made, will be Twenty-four Shillings; and it is proposed to commence it so soon as the Names of *Five Hundred Subscribers* have been obtained.—The printers, Messrs. Wilson and Ogilvy, 57, Skinner Street, will receive the Names of Subscribers.

Lectures.

CLINICAL LECTURES.

By Samuel Solly, Esq., F.R.S.

Senior Assistant-Surgeon to St. Thomas's Hospital.

DISEASES OF THE URINARY ORGANS.

The subject to which I intend directing your attention to-day, gentlemen, is one of the most important in the whole domain of surgery—namely, Diseases of the Urethra and Bladder, but especially Stricture. Many a valuable life has fallen a sacrifice to injudicious, unavailing, and not unfrequently rash and violent attempts to overcome strictures of the urethra, where the patient is suffering from the agony of long-continued retention of urine.

Many a stricture of the urethra might be cured by mild, simple, and almost painless measures, if they were adopted in the early stages of the complaint. It is true that many persons conceal their sufferings even from their medical adviser; but, on the other hand, it must be admitted that patients occasionally suffer from all the effects of stricture of the urethra, and remain under medical treatment for some time, without the medical adviser suspecting the existence of any disease of the urethra. This is a fact well known to every consulting surgeon in London; and, on the other hand, patients will sometimes present themselves with almost all the symptoms of stricture, but in whom no stricture exists.

It is not my intention, gentlemen, in the clinical observations which from time to time I shall offer you on the cases before us, to attempt the minuteness of surgical instruction which is essential to a complete course of surgery. I shall rather endeavour to impress upon your minds some general principles on particular subjects; and you must excuse me if my language is homely and familiar.

During the last summer we have had many cases of urethral disease, and some of them very severe.

The first case to which I have to direct your attention is one of stone in the bladder, but without all the ordinary symptoms; and I do so because when he was first admitted, and for some little time, I suspected stricture and chronic cystitis. It is peculiarly interesting, as shewing how long a stone in the bladder may exist without being detected, and how careful we should be in our diagnosis. He had been under the care of a talented and hospital surgeon in the country, who says, "I sounded him carefully in October, 1847, and subsequently in December and January, and made up my mind that no calculus had formed—at least, neither myself nor my colleague could detect one."

When you sound for stone, use rather a short and straight instrument at first. Introduce it very slowly and cautiously, so that the point of the instrument sinks into the post prostatic fossa, in which the stone is generally situated. If you do so, you will generally strike the stone at once; but if you sweep a sound, with a good full curve, into the bladder rapidly, you carry your instrument over the stone, and you may turn the point of it all round the bladder in vain. I will now read the case as taken by my dresser, Mr. Barwell.

Robert Kain, æt. 37, was admitted into Henry's ward, No. 3 bed, under the care of Mr. Green, October 3rd, 1848. He is a tailor, of Chatham, unmarried, and of irregular habits, short and spare, and of a dark complexion.

In August, 1846, he had gonorrhœa, for which he was treated with Tr. Cubebæ, and the discharge was quickly arrested: this is the last time he had gonorrhœa: he had it once before.

In May, 1847, he was attacked in the following manner:—He had one day held his water too long on the passage from Chatham to London, and when he attempted to void his urine, could not do so for some time, and at last it came in a very small stream. Afterwards he had frequent and great desire to pass it: he could, however, pass but very little at a time, and with great cutting pain along the urethra. He did not observe any peculiarity in the size or shape of the stream, though he remarked that a thick and white slime settled to the bottom of the vessel, and adhered there. This attack lasted three or four days, and then went off, leaving no effects, but in a week the symptoms returned, and have remained with him since. He was treated as for stricture, by the passage of bougies; subsequently by the injection of warm water, which relieved him the most.

When admitted to the hospital, his urethra was in a very irritable state, so that its firm contraction led to the belief that he had bad permanent stricture, and only a small catgut bougie could be passed: however, this decreased, so that on November 4th a No. 6 catheter could be passed into the bladder. He is now, Nov. 4, in the following state:—He is frequently troubled with desire to void urine: this he passes in small quantities, with pain in the urethra, sometimes in either testicle. The urine contains a good deal of thick tenacious mucus, no pus or albumen, but, examined by the microscope, some prismatic crystals are found, apparently triple-phosphate; the prostate gland examined by the rectum is not enlarged, but excessively tender, so that pressure on it causes pain down each thigh, and a desire to pass urine. In passing a catheter, a sensation of roughness is felt just as the instrument is passing into the bladder, probably from thickening or ulceration about the verumontanum or prostate. The patient remarks that when he is upright, walking about, the calls to void urine are less violent than when he is lying down.

The roughness referred to in the above report I experienced in passing the instrument over the verumontanum: it was like the sensation experienced when the catheter passes into a false passage—it was not that of a rough hard body, like a stone. I ordered the man the infusion of buchu, with dilute mineral acids, but as we can now well understand, without any relief. I then determined to pass down Lallemand's caustic holding catheter, and unsheath it for a moment over the verumontanum, but on introducing the instrument very carefully, the point struck distinctly on the stone. I then introduced an ordinary sound, and felt it still more decidedly, and by weighing it in the curve of the instrument, and by carrying the point over the surface of the stone, I came to the conclusion that it was a large stone. Mr. Green, who also examined him, confirmed me in this opinion.

The next question to be decided was the desirableness or not of any operation, and what operation should it be?

The extreme irritability of the bladder, the possibility of ulceration of the prostate, and the great size of the stone, seemed to preclude the idea of lithotrity.

The next question—is there any disease of the kidney? can, I think, be safely answered in the negative. He has never had any pain in the region of these glands, the urine does not contain albumen; it is true it contains a small quantity of the earthy phosphates, but it is not alkaline.

Besides, there are cases where there is reason to suspect some disease of the kidney, but in which it is your duty to operate, and give your patient the chance of recovery, rather than leave him to the certainty of a painful lingering death.

I once operated in private practice, on a lad 13 years of age, who had suffered with symptoms of stone for 10 years. He was one of the most miserable objects I ever beheld — pale, emaciated, with a countenance betraying the effect of long-continued pain, haggard, and care-worn. The urine was loaded with the earthy phosphate; it was constantly dribbling away. He screamed with pain on the introduction of the sound, though I passed it with the greatest care. It was very clear that a few months must terminate his sufferings, if they were not relieved, and I believed that it was my duty to operate; but I determined to share the responsibility of it with some higher authority. As my friend and colleague, Mr. Green, was not quite well at the time, I had a consultation with Sir B. Brodie, who regarded it as a most unfavourable case, but still one in which there was no alternative. I operated on the 19th of March, 1845, in my usual manner, with a beaked knife. He recovered, and, though slowly, without a bad symptom: I gave him, after about a week, the dilute nitro-muriatic acid: the urine soon got clear, and he is now a fine healthy young man.

In my next case, with unfavourable symptoms, I was not so fortunate. The kidneys were extensively diseased; as you will see by this drawing. It is the only case I have lost out of ten that I have operated on during the last seven years, one of whom was a man 74 years of age.

In this case I operated, because my colleagues agreed with me that it was my duty to do so.

Since I last addressed you, I have, as most of you are aware, operated on Kain. There was nothing peculiar in the operation, except the great size of the stone, which in circumference equalled a small hen's egg: it weighed ℥j. ʒiij. gr. x. I had some little difficulty in extracting it, for you will remember that in the operation for lithotomy you have a limited space for your incision; you cannot, as in the operation for taking up the femoral artery, for instance, make as long a wound as you like. You are limited by rectum *behind*, the pubic artery on the *outer* side, by the bulb, with its artery in *front*. If, therefore, having made as large an opening as the space will allow, you will find a difficulty in extracting the stone, you must be patient—you must wait, and you will find the parts relax—you must ease the stone from side to side, and if, as in my case, you find it hitch in the perineum between the bladder and external opening, it will assist you to insert your finger into the rectum below, and abandoning the forceps, insert the scoop above and behind, and thus extract it.

The patient had gone on without a bad symptom ever since the operation.

We will now proceed to the subject of stricture, of which disease the following case is a good illustration:—

John Honor, æt. 45, a horsekeeper, married, and by his own account a steady, sober man, was admitted into Lazarus ward, St. Thomas's Hospital, under the care of Mr. Solly, Nov. 20, 1848, for a stricture.

He has suffered from this complaint for at least twenty years, so that he says he cannot recollect all the circumstances attending the commencement of the disease; but he remembers that he first observed a difference in the passing of his urine, after a somewhat protracted attack of gonorrhœa, which was treated, he believes, with copaiba—at all events, injections were not employed. This last circumstance is worth noticing, as we generally find stricture results from their use. For the cure of the stricture he has never regularly applied to any medical man; for he says that the stricture is but little trouble to him. The urine does not dribble away from him, neither does it disturb him, generally speaking, more than once during the night, it cuts him a little in its passage, and he is rather long voiding it, but can generally do so without straining. At times, however, and without any apparent cause, he finds that he can only pass very little urine at a time, and this only with considerable straining efforts: under these circumstances he has usually sought surgical advice.

On November 19th, he came to this hospital. He was apparently suffering but very little pain. On attempting to pass an instrument, a false passage running to the right of the urethra was discovered: this appears to have existed for some years since. He first bled copiously from the urethra. The man was sent to the warm-bath, but no instrument could be introduced into the bladder. On the morning of the 20th, he came into the hospital, and Mr. Solly succeeded in passing a small catgut bougie.

This case, gentlemen, is one of ordinary permanent stricture ;. that is, one in which the urethral passage is narrowed—strictured by the deposit of adventitious tissue in the course of the canal.

We make use of the term permanent, in contra-distinction to the spasmodic stricture, which may arise from simple spasm of the accelerator urinæ muscle ; the narrowing of the channel from this cause being only temporary, ceasing with the cessation of spasm in the sphincter muscles. But you must not suppose that you often find these two kinds of stricture perfectly distinct, for you seldom meet with a permanent stricture unaccompanied with more or less spasm of the muscles and of the urethra ; and the most common cause of spasmodic stricture is more or less amount of permanent stricture. You must not suppose from these observations that the distinctions are useless and artificial, —more theoretical than practical. Nothing can be of more importance than to remember that they may be isolated, and that they may be combined.

The first time that the urethra receives a bougie, whether there is stricture or not, it will invariably resent it..

It will contract upon the instrument, the sensation of a stricture being communicated to the operator, and if the instrument is forced onwards, the mucous membrane will be lacerated, inflammation set up, and a permanent stricture formed where none existed before. But if, on the other hand, the operator, on finding his sound or bougie clasped by the canal, waits a little while, rests on his oar, and then gently coaxes the instrument onward, the apparent stricture vanishes, and it slips into the bladder with perfect ease.

When there is much spasm of the urethra, a metal instrument is better than a wax bougie.

I will now tell you what I did in Honor's case, as it will convey to you practically my views regarding the treatment of all such cases.

After inquiring what had been done, and finding that he had lost a good deal of blood in the attempts made to pass a bougie, —that no instrument had been passed, and that there was a false passage,—I took a moderate-sized sound, and, passing it gently down the urethra, found that there was some spasm, but not a great deal. Waiting a little, I moved it onward again, till I found it absolutely stopped. After removing it, I took a small catgut bougie, and, passing it gently down, soon found it quitting the natural channel and entering a false passage. Having now ascertained the direction in which this passage ran, I then withdrew the bougie, gave the point a slight bend, and, passing it in again, feeling round the urethra for the pervious spot, but avoiding the false passage, I managed to hit it off; so the instrument slipped into the bladder without using the least pressure or force.

This is the great secret in the use of the thread-sized catgut bougie: it must be handled most delicately, turned in the urethra, something like a cork-screw, till the hole through which the urine escapes from the bladder is pitched upon; and this is immediately felt by the instrument passing forwards without any sensation of obstruction. The catgut bougie must never be used with the idea of breaking down a stricture or pushing through it, but, if I may so express it, coaxing it into the bladder. Whenever you find the bougie spring back, you must stop and give it a little twirl between your forefinger and thumb: you may often have to work for half an hour or more in this way, without being able to hit off the opening; but patience and delicate handling will do a great deal. I assure you it is worth taking some trouble to relieve a fellow-creature effectually of such a serious malady without the use of the knife. Having passed the stricture, and entered the bladder, I desired that the bougie should be retained there for an hour. I attach great importance to the retention of the bougie;

and with the catgut bougie there is this additional advantage, that the bougie swells to twice its original size. I attach so much importance to the retention of the bougie, that in private practice I have had a closet made on purpose for such patients.

In Honor's case the plan has succeeded so well that we can now introduce a fair-sized bougie; and I have just heard that he has left the hospital, considering himself well enough to go to work again.

But there are cases of stricture which no skill or patience on the part of the surgeon can overcome with the aid of the bougie alone; and we have such a case in the house at the present time. I called your attention to it to-day when we were going round, and I will read you the account as taken by Mr. Bull, the dresser.

Stricture of urethra—subsequently, operation through perineum.

John Carter, æt. 59, a cabinet-maker, much debilitated, and apparently of broken constitution, was admitted under Mr. Solly, May 9th, 1848, with a permanent stricture; his urine is constantly dribbling away, and it is now some years since he had power to void it in a stream. The stricture is situated in the membranous portion of urethra, and the finest-sized catgut bougie cannot be passed through it. The man does not complain of much pain, but says that his life is rendered miserable by his condition.

Has been the subject of stricture for 20 years: was formerly a sailor on the West India station: 26 years ago, whilst there, he contracted syphilis, and owing to his own neglect, and not adopting proper remedies, the chancres spread over the whole of the glans penis. The sores did not heal for 12 weeks; the result was the loss of a lateral quarter of the glans: the frænum, and the normal orifice of the urethra, were obliterated. Has never had secondary symptoms. Has been accustomed to drink spirits, &c. freely whilst in the service. Found no difficulty in passing his urine until four years after he had been cured of the venereal disease, when (he says) without any assignable cause, the urine gradually ceased to flow in a full stream. He says that about 20 years ago he was under the care of Sir Astley Cooper, who passed a number of different kinds of bougies, and finally, "an armed catheter," which he describes as an instrument having a sharp point that was thurst into the stricture. This last afforded him some relief, but after some time the stricture again became permanent, and up to the present time relief has been only partial. Ordered to dilate, if possible, the stricture, with small catgut bougies, gradually increasing their size, and to take—Inf. Buchu, ℥ij.; Liq. Potass. ♏x. bis die.

June 1st.—Up to this there has been little or no improvement.

19th.—Hirudines vj. have been applied to perineum before using the bougie; also warm baths; likewise belladonna smeared upon the instrument, and allowed to remain within the urethra, but without the least effect upon the stricture. I was induced to order the leeches, in consequence of the benefit I have seen derived from them in similar cases; they relieve the congestion of the urethra, relax the muscles, and thus assist the bougie in its onward passage. Belladonna also is often very useful.

July.—During the whole of the month the above treatment was alternately used, but no benefit resulted. The man's breath is bad, and his spirits appear broken by his unhappy condition.

Aug. 10th.—A small silver catheter has been (every few days) passed down to the principal stricture, and gentle pressure kept up for some minutes, with some little good, the stricture appearing to relax without bleeding.

20th.—Have succeeded in passing the catheter apparently to the prostatic portion, when the catheter was found to enter the rectum all at once; I suppose by an old opening, for no bleeding followed, nor did it give the man pain.

Sept. 2d.—Under the above circumstances, and the impermeability of the stricture, and the impossibility of relieving the patient by palliatives, Mr. Solly determined to cut through the perineum, as being the only chance of giving permanent relief to the man, though the badness of his health threw some doubt as to the success of the operation.

The patient was placed on the operating table, and bound in the position for lithotomy; Mr. Solly made an incision in the raphe of the perineum, just anterior to the bulb down upon the catheter. The strictured portion of the urethra was almost cartilaginous, and offered more than ordinary resistance to the knife; but when it had been completely divided, the catheter was readily passed onwards through the prostate into the bladder without giving the patient much pain. About 16 ounces of very fœtid muco-purulent urine was passed through the catheter, but without blood.

Now you will find it a matter of great importance to bind your patient, as for lithotomy: it facilitates the operation, which is certainly one of the most difficult in surgery. Indeed, Sir Astley Cooper used to say, that the surgeon intending to perform it ought to have a long summer's day before him.

A No. 12 silver catheter was used: the orifice of the urethra had to be slit open (the old cicatrix preventing its passing), and some little difficulty was experienced in progressing it down the upper part of the urethra, from its constricted state, and the presence of two smaller strictures within its spongy portion.

The patient lost comparatively little blood; his pulse was feeble, and his vital powers low. After having been in bed several hours, his pulse rose, and his skin became warmer.

4 P.M.—A slight oozing of arterial blood, apparently from the bulb, took place, which increased as the skin, &c. became warmer. Cold water dressing did not check the bleeding, and as the patient began to look blanched, the wound was plugged with lint and alum water; by this means the hæmorrhage was checked.

11 P.M.—No further bleeding. The catheter being tied in rather tightly, causes him some inconvenience. Complains of no pain; is not restless, though the parts are swollen and tender to the touch. Pulse feeble, 80. To prevent the patient injuring himself with, or displacing the instrument, the knees were kept up and flexed by a jack towel, fastened to the head of the bed. ℞ Tr. Opii, ♏xl. hâc nocte.

3rd.—No more bleeding. Had some sleep last night; feels quite easy; parts not so hot as last night, but still swollen and tender; pulse very weak; loss of appetite, yet no sickness, but very thirsty; skin warm; looks haggard, and the countenance is shrunken. The urine that comes through the catheter is still most ammoniacal and turbid, but without blood. Afternoon: Had a griping pain in the bowels, which was relieved by hot flannels; no tenderness about abdomen. Night: Makes no complaint of pain; the parts look a little puffed and discoloured. Is not restless, but does not sleep; pulse still weak; tongue dry and coated.

4th.—Much the same as yesterday.

5th.—Catheter changed by Mr. S. and repassed without much difficulty; wound looks more healthy. Much feebleness and debility; slept last night without Tr. Opii; bowels open to-day for the first time since operation; urine still very fœtid, with much slimy mucus; no albumen or excess of lithic acid.—Wine, ℥iv.

7th.—Is still very feeble, and his pulse is weak; wound going on well, and a slight discharge from it; bowels open; complains of no pain.

9th.—Answers very incoherently; breathing oppressed; is very low and feeble. No pain in perineum; the parts appear tender only from excoriation arising from the urine and discharge which passes. The wound does not look sloughy; bowels open; to take for support—Arrow Root, Eggs, Roast Meat, and, at his own wish, Gin, ℥vj. instead of wine.

11th.—On the whole is much better; pulse feeble, 80; answers somewhat irrationally, yet expresses himself better. Wound and perineum a little tender, but not swelled. The urine clear and not so fœtid. His respiration is not so hurried as on the 9th.—Cat. Lini. perineo.

16th.—Catheter again changed, and repassed without difficulty. Man very feeble. Pulse weak; wound healthy; parts much excoriated from the discharges and urine which passes through perineum.

18th.—Spent a restless night; passes his motions involuntarily; pulse feeble. The wound looks healthy, and is granulating. As the man feels uneasy, the catheter was removed; on its being withdrawn, a little urine passed from the urethra. The man's look is anxious, and his vital powers appear to get lower.

To still continue the gin and the other support. The excoriation has been relieved by the application of Lot. Sodæ Carbon.

19th.—Appears more collected, and is in every respect better. No. 11 catheter introduced; wound looks healthy, and is gradually closing; urine still turbid, but not so ammoniacal. A little water still finds its way through the wound. Bowels confined. To take Pulv. Rhei, c. Cal. ℈j.

25th.—Is still exceedingly weak and low; pulse feeble; appetite bad; and he is at times irrational in his replies. The wound is looking healthy, and is slowly healing. The catheter was taken out of the urethra, but the patient has no control over the urine, which passes involuntarily.

29th.—Catheter introduced daily; water still unchanged in character; a good deal of ropy mucus always follows the introduction of the catheter.

Oct. 10th.—The patient is still so weak and feeble as to be obliged to keep in bed. The urine still passes freely through the urethra, though he has no control over the stream. The wound in perineo almost closed. A small fistulous opening has appeared on the under surface of the penis, in front of the scrotum, through which the urine oozes. Catheter passed every two days to keep the urethra free.

25th.—The opening in perineum has quite closed; the healing has been accelerated by the occasional application of Arg. Nit. No. 12 catheter passed thrice a week, for there is some little constriction in the upper part of the urethra. The man is not yet able to leave his bed from debility, and requires the gin and other stimulants to keep up his strength.

30th.—Fistulous opening in front of the scrotum has rather increased in calibre (about the size of a large pin); caustic and iodine have no effect upon it; urine still thick and containing mucus.

Nov. 10th.—The man has gained a little strength, and can with assistance walk down the ward; fistulous opening unimproved, and the urine remains the same; a catheter still required, more as a precautionary measure.

20th.—Man improving in power; the fistulous opening unhealed, though a little lessened in size; urine unchanged. He feels no pain in the bladder, and can now retain his water for about four hours at a time.

Dec. 3rd.—Improved in every respect; goes down stairs every day; wound in perineum perfectly healthy.

The following case is another illustration of the success which may attend this mode of stricture:—

Operation through perineum for stricture.

Thomas Lee, æt. 42, spare make, of an anxious countenance, admitted to Henry's Ward, under Mr. Green, June 26, 1843.

Has been the subject of stricture for many years; has undergone treatment at various times for its relief, and at various places, but with only partial success; was last under Mr. Tyrrel, (Mr. Fixott, dresser), where he remained about six weeks, and was presented about a fortnight since much relieved. The bougie was passed with much difficulty, but its use was continued until he was presented. He returned on June 26th, suffering from retention of urine, but there was nothing very urgent in the case; his pulse was quick, and his countenance rather anxious, but naturally of a nervous temperament; very little pain was complained of, and the bladder was not much distended. A large sized silver catheter was first made use of, but as it encountered a stricture about three inches from the orifice of the urethra, a smaller one was employed: the stricture was then passed, but a second presented itself about the membranous portion of the urethra, which resisted all efforts to reach the bladder. The warm bath was had recourse to, with the same result as regards the instrument, but it had the effect of procuring partial relief for the patient in the natural way. He was then removed to Henry's Ward, and no further attempt at that time was deemed advisable.

27th.—Was seen by Mr. Solly this morning, who ordered a bougie to be passed each day, commencing with a small one, and gradually increasing the size. To take—Pulv. Rhei, c. Cal. ℈j. st. et M. S. Co. postea.

30th.—The attempts to pass a bougie have as yet been unsuccessful. The first stricture has, however, been overcome, but the second continues very obstinate; the difficulty, however, is considerably increased by a number of false passages. The stream of water has improved a little, but is much twisted, and cannot be passed in a straight line, inclining either to one side or the other; it is about the size of a small quill. The instrument to be persevered in, and the following medicine taken:—℞ Hyd. Chlorid. gr. j.; Opii, gr. j. o. n. M. S. Co.

July 15th.—There is much fever to-day; is very restless; the medicines to be discontinued, and to take—Pulv. Jal. Co. nocte; Ol. Ricini mane, and the bougie to be discontinued.

19th.—No instrument has been passed since last report. To apply equal parts of Tr. Iodin. et Opii to perineum; then Bal. Calid.; after which try and pass a bougie. To take Inf. Buchu, ℥ij.

22d.—The bougie has been again tried; the smallest one cannot be passed: ordered to have a cat-gut one passed into the stricture (after quitting a bath), and to remain within the urethra, that by its swelling the stricture may be dilated.

Aug. 8th.—No improvement. The cat-gut bougie has been passed twice or thrice into the stricture, and allowed to remain from thirty to fifty minutes, but no good has resulted. The Iodine to the perineum has been discontinued for some days. To take—Pil. Hyd. gr. v. alt. noctibus, M. S. Co.

12th.—As the stricture has been so *obstinate*, and has not yielded at *all to* the various remedies employed, it was determined to cut down upon it through the perineum.

Mr. Solly and I proceed to operate without further delay.

A full-sized male catheter was passed down to the seat of stricture (the orifice of the urethra having been enlarged to admit *it*), in the spongy portion of the urethra, just anterior to the bulb. An incision was then made in the line of the raphe, on to the point of the instrument, through the stricture into the urethra. This catheter was then passed onwards, but I could not succeed in introducing it into the bladder. I then passed a female catheter with some difficulty into the bladder, and guided by this instrument I was enabled to carry the male one onwards. The instrument was then retained in position by means of a tape passed through the "eyes" of the catheter, which was further carried beneath the thighs, and tied to a bandage brought around the abdomen.

14th.—Very comfortable this morning; had very little sleep last night.—℞ Morph. Mur. gr. ¼ om. n.

16th.—Progressing favourably. To take Porter, Oj. and Meat daily, increasing Morphia to gr. ⅓. The urine flows through the instrument freely; is clear and healthy.

23rd.—Has complained for a day or two of an uneasy pain in his buttock; upon examination this morning, a bed-sore was discovered over the sacrum, but not a very extensive one.

Ordered—Cerat. Calamin. to the parts, and to lie on a water bed. All previous medicines to be discontinued, as he is a little feverish, and to have Mist. Efferves. ter die, and Beef Tea. The Porter to be discontinued. Black wash and poultices have been applied for some days to the perineum, which is healing favourably.

30th.—Has been gradually improving since last reports. To continue as before.

Sept. 9th.—Very comfortable; the sore over the sacrum has nearly disappeared. The water continues to flow through the catheter, and is quite natural. Instrument to be withdrawn, and a gum-elastic one introduced.

10th.—In the night the top of the gum-catheter came off, and the instrument slipped from the urethra. The silver one was ordered to be introduced, but as some difficulty was experienced in so doing, it was not persisted in. He passed his water this morning through the urethra in a tolerable stream, but it inclined a little to one side.

11th.—The silver catheter was introduced this morning without difficulty. The Porter and Meat renewed.

23rd.—The catheter was withdrawn this morning and not returned. Water bed no longer necessary.

30th.—No difficulty in passing the catheter. The wound is nearly healed. The stream of urine is good, and the water looks healthy.

The urine in this case was examined from time to time; it was generally rather alkaline, and at one time there was a good deal of thick mucus deposited. The bougie was employed every day, according to the condition of the patient, who at times was very nervous and irritable, with occasional attacks of fever.

Catheters, both metallic and elastic, were occasionally made use of.

Oct. 2d.—Early in this month he was presented quite well.

Nov. 4th.—Presented himself this morning at the surgery. A catheter was introduced without the least difficulty.

I have thus related to you two successful cases of the operation in perineo for stricture; but I must now show you the reverse of the picture.

As I told you, when I first mentioned this operation, it is one of the most difficult in surgery; for the urethra is generally so much diseased, and the parts so much altered in structure, that it is extremely difficult to find the vesical portion of the urethra after dividing the stricture. You can scarcely ever see it, and you can only discover it by the touch, either with a probe or a female catheter: sometimes, as in Carter's case, you can pass the same catheter onwards into the bladder with very little difficulty; in other cases, the catheter passes on apparently in the right course, and without using any force, and on withdrawing the stilette the urine flows, so that you feel no doubt of the instrument being in the bladder: the patient is relieved, but in the course of a few days a low fever sets in, and the patient sinks.

I have had two such cases: in one the post-mortem examination exhibited the catheter passing through the substance of the prostate; in another, through the anterior wall of the bladder, just below the pubis.

Original Communications.

REMARKS ON THE
EPIDEMIC DYSENTERY
LATELY PREVAILING IN PENZANCE.

By Richard Moyle, M.R.C.S.

[A communication on this subject was inserted in the *Medical Times* of last week, under the signature of Mr. George Borlase Childs. It is only an act of justice to the Messrs. Moyle, to state that they did not authorise this publication of their notes. In supplying them to Mr. Childs, at his own request, they considered that they were for his private information, and they gave him *no authority* to publish them. They subsequently stated to him their intention of publishing the results of their experience on their own account; but in spite of this notice, which was given in due time for the withdrawal of Mr. Childs' vicarious contribution, he persisted in publishing it in the *Medical Times*, and has thus anticipated the publication of the original paper of the Messrs. Moyle. This mode of making use of the experience of other medical men opens a new chapter in medical ethics, and suggests great caution on the part of provincial practitioners. *Sic vos non vobis mellificatis apes.* In the meantime, Mr. G. B. Childs' paper, so far as it relates to epidemic dysentery, must be regarded as an incomplete copy of facts and circumstances which he had no opportunity of witnessing; and his public acknowledgment of "courtesy and great assistance," can only be considered as a mockery, when he has thus knowingly anticipated the intended publication of those who furnished him with the facts.[*] We believe that the editors of no respectable journal would sanction such a proceeding; and had the *present* editor of the *Medical Times* been informed of the real circumstances under which this paper was furnished to him, we do not doubt that he would have declined its insertion.—Ed. Gaz.]

Epidemic Dysentery is of such rare occurrence in England, that perhaps the following remarks on this subject, as they contribute somewhat to the medical statistics of the day, may not be deemed unworthy of being preserved in the pages of your journal.

Until the outbreak of this epidemy in June last, there is no record of any such disease having existed in this locality; and as disorders of this class are much influenced by atmospheric causes, it may not be amiss, in the first place, to give a statement of the variations in the temperature, and of the barometric range, both before and after this period.

BAROMETER.			THERMOMETER.		RAIN.	Meteorological Remarks.
1848.	Highest.	Lowest.	Highest.	Lowest.	Amount in inches.	
May......	30·20	29·22	71	47	0·777	Splendid weather; sky absolutely cloudless, day and night, from 1st to 15th, and almost so from 22d to 30th.
June......	30·02	29·12	66	49½	3·287	Weather changeable; wet and dull; 18 rainy days; foggy.
July......	30·30	29·26	71	51	3·277	Much rain and fogs; rain fell on 17 days.
August...	30·10	29·40	66	53	4·972	Very wet month; only 3 days without rain.
Sept. ...	30·28	29·10	66	50½	3·092	Fine for a fortnight; rain fell on 13 days; dense fog.
Oct.	30·02	29·26	62	41	4·425	Very wet; temperature of 18th lower than it had been for five years on that day.
Nov.......	30·40	28·96	53	37	3·981	Wet weather; temperature low; great fluctuation of barometer.

After the disappearance of influenza in the early part of February of the present year, Penzance enjoyed its usual sanitary condition; but this immunity from the prevalence of any epidemic ceased soon after the arrival of the brig "Sandwich," with emigrants from Cork, bound to Boston.

This vessel had been at sea sixteen days, encountering adverse winds and boisterous weather, and, from her leaky state, was obliged to run for this port, which she entered on the 7th of June. The emigrants, sixty-three in number, were not considered to be of the lower class of Irish, many being small farmers, with their wives and children. The bread which had been served out to them was of a bad quality, and had been damaged by salt water, and the deck on which they congregated and slept had a very foul smell, from being insufficiently ventilated, and partly from want of cleanliness. On these circumstances being reported to the authorities, means were immediately taken for their improvement. On the 15th of June the Sandwich was hauled into a close dock to be repaired; the passengers still taking their meals and sleeping on board, but many of them walking about the town by day. Up to this time they were healthy.

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[*] It may be as well to state here what the law is regarding private letters. "The *receiver* of a private letter has at most but a joint property with the writer, and the possession does *not* give him a license to publish it."—2 Atk. 342.

Medical assistance was first sought for on the 18th of June. The subject of it was Joanna Cushman, 24 years of age. She died of "dysentery" on the 7th of July. The second case was that of a girl who had had typhus fever some time previous to her leaving Ireland; she died on the 13th of July, of "dysentery." The third case was a woman of sixty, she also died of "dysentery." And there was a lad who died of phlegmonous erysipelas of the head and face, after four days' illness.

These patients, soon after being attacked, were removed to a house in the higher part of the town, and the other passengers were provided with a spacious warehouse, and, by the kindness of some charitable individuals, were afforded many comforts, such as fresh meat, milk, vegetables, &c., and they also liberally contributed to their wants on their outward passage.

They left this port on the 10th of July, and I have been informed that two of the emigrants fell victims to dysentery on their voyage, and that two of the crew took the disease, but recovered. I am not aware whether dysentery prevailed at Cork at the time of the sailing of the Sandwich from thence, or whether she had made any tropical voyage previously to shipping these emigrants, but it may not be out of place to mention that Dr. Barry, in the Dublin Hospital Reports, states, that the inhabitants of Cork, who drink the water of the river Lee, which is brackish, and receives the contents of the sewers, are subject sometimes to a fatal kind of dysentery.

The 16th of July was the first day on which any of the towns-people were attacked with dysentery, when two were taken ill—one was a mild case, but the other a severe one. The disease became much more rife in August, spreading to most parts of the town, and marked by all the characteristic symptoms which had been observed on its first outbreak. Thirty-seven of the inhabitants died of "dysentery" in this month. In September, the fatal cases in the town amounted to twenty-six, and in the adjacent parishes to twelve. In October, thirteen died in the town and nine in the country. In November, one in the town and one in the parishes; since which (Nov. 10th) no death from this disease has occurred in this district, but *very many* in the country beyond its limits.

Mention having been made of "this district," it is right to observe that "the Penance district" for the registration of deaths includes the town and three adjacent parishes—Madron, Gulval, and Paul. The amount of the population, allowing for the usual rate of increase since the last census, is 19,000—one half being in Penzance and the other in the parishes, and the number of deaths annually (taking the average of the last eleven years) is 377, being rather more than thirty-one per month.

The following tabular arrangement shows at one view the spread of the disease in the town and country, its acme and decline:—

1848.	Deaths from all Causes in this District.	Deaths from Dysentery in this District.	Deaths from Dysentery in Town of Penzance.	Deaths from Dysentery in 3 adjacent Parishes.
July	31	5	5	0
August	71	38	37	1
September	67	38	26	12
October.	48	22	13	9
November	31	2	1	1
	248	105	82	23

From Dysentery . 105
From other Causes . 143

Total 248

Of the 105 deaths, twenty-four occurred between the ages of five years and sixty; but the greatest mortality was with young children, forty-six of whom died, the remaining thirty-five being old people.

In a few instances the disease terminated fatally so early as the fourth or fifth day, but by far the greater number died about the tenth; some lingered on for a month, and then died. The duration of the disease was mainly dependent on the intensity of the attack—about sixteen days was the average in those who recovered. In many instances it passed into a chronic state, continuing for several weeks, and some became affected with anæmic anasarca, all of whom, as far as my own observation goes, ultimately recovered.

Those whose physical condition had been impaired by bad diet, by previous illness, or by excesses, were the most obnoxious to its attack; but the middle and upper classes were by no means exempt, nor were the strong and robust. It has been estimated that there were about five hundred cases under medical treatment in the *town* only.

Keeping the "questio vexata" of infection in abeyance, it was impossible to overlook the numerous instances in which the disease *appeared* to be communicated from one person to another. I shall only mention one:—A healthy girl, six years of age, a farmer's daughter, was seized in the town with dysentery, and was shortly after removed to her father's house, about five miles off—in a healthy village—standing on high ground, and quite isolated. She died after six days' illness. On the day of her death, her younger brother, an infant, sickened, and died from dysentery in four days. The aunt who had assiduously attended the children, contracted the complaint, but recovered. A robust servant-girl was the next attacked. She was sent to her home, about two miles distant, where she died in six days from the commencement of her illness. Within a short period, two other individuals, in an adjoining house, took dysentery and died. There were no other instances of this complaint existing within four miles of this village.

Contemporaneously with dysentery were many cases of cholera biliosa; ten fell under my own care, five of which were very severe, and one proved fatal. Mary Baker, 63 years of age, residing near the Dock, who had long been out of health. She was seized suddenly, on the 15th of August, with vomiting and purging, followed by cramps, rice-water dejections, scanty urine; had pulseless wrists; cold tongue; livid extremities; collapse, and death on the fourth day. Two of the others were seized on September 1st, at 2 A.M. with violent cramps, and in attempting to get out of bed fell on the floor, where one of them was found at nine o'clock, she having no one with her but a little grandchild of three years of age.

The epidemic dysentery was in its form inflammatory, but of a sub-acute character, speedily becoming adynamic, and its type continued and not intermittent.

It often commenced with slight chills, followed by diarrhœa, griping pain in the abdomen, with frequent mucous and bloody stools, straining and tenesmus; severe pains in the loins, which by many women were compared to labour pains. In many instances it was ushered in by decided febrile symptoms: pulse rather hard and frequent; *tongue* furred; vomiting; urine scanty, accompanied by dysuria, *tormina*, incessant visits to the night-chair, and the voiding of a shreddy mucus, mixed with a large quantity of blood, sometimes dark and grumous, but generally florid; pain and tenderness in the hypogastrium, the pulse became more quick and feeble; the dejections more frequent, of a peculiar odour, and very offensive, in appearance not unlike the washings of raw meat. After the ulcerative stage had set in, portions of the mucous surface of the large intestines sloughed off; in some cases hiccup supervened; prolapsus ani; cold extremities; pinched features; cadaverous smell from the body; rapid exhaustion, and death. No post-mortem examination was permitted in any instance.

The treatment found most beneficial in the milder cases was that generally adopted in sporadic dysentery. In the severe cases, during the congestive and inflammatory stage, the application of leeches, and after a mild laxative or two, the early exhibition of small doses of mercury, frequently repeated, in combination with opium and ipecac. so as to induce gentle ptyalism, was by far the most successful practice; occasional doses of ipecac.; fomentations; counter-irritants, as large mustard cataplasm or blisters, or stimulating liniments. The tenesmus was relieved by opiate injections or suppositories, and small doses of Ol. Terebinth. were eminently serviceable in arresting the hæmorrhage. The disease generally was of that asthenic character that the instances were few that admitted of general blood-letting. I have been informed that a mixture of diluted nitric, with Tinct. Opii, was very useful in the chronic stage.

The severer cases were very little amenable to any medical treatment; for where the inflammatory stage passed rapidly into the ulcerative, nothing appeared to produce any effect in controlling the virulence of the disease, and all attempts to arrest the discharges by astringents, such as Plumb. Superacet. Cupri, Sulph. Trisnitrate of Bismuth, Infus. Hamatoxyli, or Matico, were utterly futile. The dejections continued unabated, and such was their fœtor, that in spite of a liberal use of chloride of lime in the apartment, the nurses on entering the sick room were in the habit of covering their faces with handkerchiefs, enclosing sprigs of rue, looking not unlike so many Turkish women, their eyes only being visible.

Of the origin of this fatal disease in this neighbourhood, there can be no doubt, for although many summers have been as wet and of equally low temperature as the last, and the predisposing causes just as much in operation, yet, until the arrival of the "Sandwich," epidemic dysentery was unknown in Mounts Bay, which has long been noted for its salubrity,* for the longevity of its inhabitants, and for its equable temperature, the extreme annual range of the thermometer being only 16°.

Penzance, Dec. 5, 1848.

A DEMOCRATIC PROFESSOR.

Dr. Loudon, one of the official examiners for the medical degree in Berlin, has been summarily expelled from that capital by the Government, for the active part which he took as a democrat in the late disturbances. Revolutionary politics and science do not accord; and Dr. Loudon may now pair off with M. Arago.

MEDICAL GAZETTE.

FRIDAY, DECEMBER 29, 1848.

The close of another volume reminds us of a duty we owe to our contributors—namely, of giving a short summary of its contents.

In the *Lecture* department, we have completed the course of Dr. West on the Diseases of Infancy and Childhood; and we have commenced the publication of a series of lectures on Preternatural and Complex Labours by Dr. E. W. Murphy, Professor of Midwifery, &c. in University College. Mr. Bransby Cooper's Course of Surgery has been continued through the present volume; and, so soon as our arrangements will permit, it is our intention to publish a lecture weekly, in order to bring this Course to an early completion. In addition to these, *Clinical Lectures* on subjects of interest in Medicine and Surgery have been contributed by Dr. Todd, Dr. Golding Bird, Dr. Little, Dr. Laycock, Mr. B. Phillips, Mr. Bowman, and Mr. Solly.

A very large portion of the volume is occupied with *Original Communications* on subjects connected with Practical Medicine and Surgery, Anatomy, Physiology, &c. Of the value of these, as indicative of the progress of Medicine in Great Britain, it is unnecessary for us to speak.

In the department assigned to *Reviews*, notices of sixty-two recently published works have been inserted. In spite of all our efforts to keep down arrears, we have a large number still on hand, which doubtless, to the disappointment of their authors, may appear to have been unnecessarily delayed. We can assure them, however, that it is chiefly owing to a desire to give variety to the weekly contents of the journal that the apparent delay must be ascribed. It is impossible, in a weekly periodical, to assign more than a limited space to this department, consistently with the publication of the reports of the meetings of Societies, of Correspondence, and other subjects which do not admit of postponement. We can, however, promise that all works of any interest to the profession will be duly noticed, and, as far as space will permit, in the order in which they have reached us. No number of the journal is allowed to appear which does not contain reviews, —a principle which will be strictly adhered to in the new volume.

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* We are seldom without a centennarvian amongst us, and there is now a woman in her hundred and second year—Peggy Carthen. A few summers ago I met in the streets of Penzance, walking alone, a woman who was within three months of being a hundred years of age. She completed a century before she died—her name was —— Ninnis.

The reports of *Proceedings of Societies* have been fully given, and as early after the respective meetings as our arrangements would permit. The reports of the Pathological Societies, including the London, South London, Liverpool, and Newcastle, are published exclusively in the MEDICAL GAZETTE.

As a summary, it may be stated, that of the 1130 pages in the present volume, by far the larger portion consists of new matter specially contributed to the MEDICAL GAZETTE.

We cannot conclude these remarks without again calling the attention of our readers to the proposition made for the publication of a *General Index* to the first forty volumes of this journal. The suggestion emanated from some of our subscribers, who know that in the possession of the old series, they have a complete library of Medicine and Surgery, with a record of medical discoveries and improvements for a period of nearly twenty years. The value of such a medical library is, however, much impaired by the want of a general index to its contents.

As the compilation of a volume of this kind would entail a heavy expense upon the publishers, and its sale would be confined to the subscribers to the journal, it is necessary that a certain number of names should be obtained before it is commenced. The names already entered amount to about one-fourth of the proposed number. We are therefore desirous of suggesting to those who are inclined to give their support to the publication of this Index, that they should add their names to the list without delay, as, although they may have the intention of becoming purchasers of it when completed, they must remember that the non-insertion of their names in the subscription-list now open may actually be the means of defeating its publication altogether.

THE Registrar-General's return for the week ending on Saturday last, shews, so far as the deaths can serve as an indication, a continued improvement in the health of the metropolis. The number was 36 below the weekly autumnal average. The fatal cases of diarrhœa were only 15 (six below the average), and those of cholera, 31. On the 21st inst. there were in the metropolis four cases of cholera—one fatal; on the 22d, six cases—no deaths; on the 25th and 26th, ten cases and one death; and on the 27th, five cases and one death. It is therefore satisfactory to find that the disease makes no progress, and that it is rather a substitute for other diseases which are usually more fatal at this season of the year. We are justified in drawing this inference, because for the last three weeks the deaths have been below the quinquennial average.

According to official reports, the cholera has now been in this metropolis, crowded as it is with nearly two millions of human beings, for the period of *three months*; and from September 23d to December 23d, the deaths from cholera, including the common English disease and probably many cases of diarrhœa, have amounted to only 449, of which 265 have occurred on the south side of the Thames. Within the last five weeks, the greater number of deaths from this disease have been registered in the east districts of the metropolis.

We wish we could give as favourable a report of Scotland. The disease appears to have declined in Edinburgh, and to have manifested itself with great violence in Glasgow. Thus, in Glasgow, the population of which is probably not more than one-fourth of that of London, there were on the 21st, 100 cases, and 50 deaths; on the 22nd, 85 cases, and 27 deaths; on the 25th and 26th, 275 cases, and 130 deaths; and on the 27th, there were 84 cases, and 45 deaths, making in the short period of six days, no less than 544 cases, and 252 deaths! This is an alarming amount of mortality, for which we think the Government is to a certain extent responsible. Had there been an efficient system of Quarantine, the invasion of the pestilence might, we believe, have been averted. There can be no doubt, from the information before us, of its having been imported into Edinburgh by a Baltic ship. From Edinburgh, it has proceeded to Glasgow, and thence it has been recently transmitted to Belfast, in Ireland.

It appears that up to the 23rd, there have occurred in Belfast 15 cases and 11 deaths; and on the 24th (the last report) there were 4 cases and 4 deaths. Let those who think that the spread of cholera from one country to another is not in some way connected with human intercourse, ponder on these facts. It may not be in our power to arrest cholera by any system of quarantine, but it is quite certain that by taking away all restrictions we are only adding to its extensive diffusion and mortality.

We subjoin our usual summary of the cases which have occurred in Great Britain up to the latest date (Dec. 27):—

	Cases.	Deaths.
London . .	528	268
Provinces .	287	148
Scotland . .	2922	1356
	3737	1772

Reviews.

On Functional Diseases of the Liver, associated with Uterine Derangement, &c. By BUTLER LANE, M.D. Pamphlet, 8vo. pp. 32. London: Renshaw. 1848.

THE object of the author of this pamphlet is to show that there are certain relations between the liver and the uterus, in health and disease, which have hitherto escaped the notice of practitioners. This has led to the mistake that the sympathetic affection has been often treated, instead of the organ which, according to this view, may be regarded as the primary seat of derangement. Some facts which have come to our notice have tended to corroborate the opinions of the author as to this hepatic and uterine sympathy. Dr. Lane thus announces his views:—

> "I have for some years entertained the opinion, that a physiological and pathological relation exists between the liver and the uterus, and it is the object of this essay to demonstrate my views on the subject, and to submit to the consideration of the profession the facts and arguments which may support the theory. I am confident that this opinion is not one of mere hypothetical deduction, but that it will be borne out by practical results, and that medical experience will speedily recognise the important bearing of the question, and afford it further elucidation.
>
> "The research and experience of three years enable me to advance the following propositions:—
>
> "1. In a state of health an anatomical and physiological relationship exists in the female between the liver and the uterus.
>
> "2. The relationship in question is apt to be disturbed in many forms of disorder and disease, primarily implicating either organ individually.
>
> "3. The disturbance in question, though varying much in nature and degree, assumes certain definite aspects, the recognition of which serves much to direct and facilitate our therapeutic appliances." (p. 1-2.)

We pass over the statistics of the liver in the sexes, and the comparison of the hepatic and uterine secretions, to come to the more practical part of the essay.

"In a great majority of instances it will be found that menstruation rarely occurs without some concomitant alvine derangement. The bowels will vary from their usual state of action, becoming either confined or relaxed relatively to their ordinary condition. Now we know that bile may be considered as the natural stimulus to healthy alvine action; if, therefore, that secretion be increased or diminished, so in proportion will there consequently be increase or diminution in the action of the bowels. Assuming, therefore, the existence of an hepatico-uterine relation, it will follow that when the periodical excitement of the uterus takes place, occasioning menstruation, then the liver will manifest some sympathetic influence. If the action should be simply derivative, the biliary secretion will be diminished, and the natural catharsis will consequently be lessened. But if a greater degree of excitement attend the menstrual period, the liver may even be supposed to undergo a sympathetic degree of excitement or erethism, and its secretion being thereby augmented, instead of being diminished, increased catharsis will consequently result. It is also to be remembered that there is an immediate connection between the veins of the uterus and the portal system, which must exert some influence. The uterine blood, however, when subjected to its own special secretive action, is purified by that very process, and consequently it does not in that respect need the hepatic elaboration; it is unlike the intestinal blood, which is impoverished by furnishing pabulum for the secretions, and deteriorated by the admixture of foreign matter imbibed by venous absorption.

"In some instances, certainly, intestinal irritation will cause uterine excitement, and on the other hand, I can conceive that uterine excitement may implicate the intestinal canal; but I cannot understand how uterine excitement is, as a general rule, to diminish the normal irritability of the intestines, and the cathartic action thereon contingent, unless it be through the medium of hepatic influence. It seems at first sight rather irrational to consider the secretion from the portal venous system as antagonised by that from the arterial uterine system; but we must remember that, during the menstrual period, a complete temporary revolution takes place in the female constitution, which, indeed, is often very perceptible at its outset. In such cases languor and oppression are experienced, the pulse is accelerated, the countenance becomes sallow and almost jaundiced, a peculiar faint odour emanates with the breath and from the cutaneous surface, and only on the establishment of the uterine flux do these symptoms subside. I believe that at the approach of the uterine excitement the function of the liver is performed imperfectly, the process of depuration therein effected is incomplete, and the supplementary respiratory action, though often much excited, is inadequate to the task. Thus the arterial blood circulating through the system is to some extent impure; this very impurity is the essence of the peculiar constitutional state that exists, and it is by means of the uterine secretion that the blood undergoes the necessary process of filtration and separation, by which the system becomes relieved. Chlorosis has often been regarded as an hepatic affection, but it is only by adopting the above views that the assumption admits of explanation." (p. 12—14.)

There is much truth in these remarks, and the only question appears to be how far the theoretical deductions of the author are borne out by the results of treatment. As a proof of the existence of this hepatico-uterine relation, Dr. Lane refers to a summary of one hundred cases, in which he took care to ascertain the peculiar alvine state at the menstrual period. Of 100 females in good average health, there was no change in 22 as to the state of the bowels during menstruation; in 45 there was comparative constipation; and in 33 relaxation. He is inclined to think that "constipation to a greater or less extent, most commonly coincides with menstruation, when the uterus is in a healthy condition, its function exerting a derivative influence in reference to the liver"; and it would appear that undue uterine excitement tends to cause relaxation.

Dr. Lane gives us the results of treatment in eleven cases; and, on the whole, these tend to corroborate the views which he has here laid before the profession. He is not, like many medical pamphleteers, a strenuous enthusiast in his theory; for he candidly admits that it will require much more extended experience than he has had, in order to confirm or contradict it. We consider this pamphlet a useful contribution on the pathology of certain forms of uterine disease.

A Practical Treatise of Chemical Analysis, &c. By H. Rose. Translated from the French, and the 4th German edition, with notes and additions, by A. Normandy. In two volumes. Vol. II. Quantitative, 8vo. pp. 587. London: Tegg. 1848.

In an early number of our last volume, we reviewed the first part of this excellect treatise on Practical Chemistry; and it now devolves on us to announce the publication of the second and concluding part. This volume is entirely devoted to *Quantitative Analysis*, or the determination of the proportions, as well as the means of separating from each other, simple and compound substances. The additions are so numerous as to give to the book the appearance of a new work; and the processes are so systematically arranged, as to render reference easy. The translation appears to have been made with care; it is very rarely that we meet with a foreign word literally anglicized, and the explanations are always intelligible. Besides quantitative analysis in general, this volume is rendered highly useful to the chemical student, by the introduction of the processes for the analysis of mineral waters; for the correction of the volume of gases from variations in temperature, pressure, and humidity; a detailed account of the method of analysing organic substances; and a most useful series of tables for calculating the quantity of one substance from the ascertained weight of another. These tables we have frequently had occasion to use, with a great saving of labour and calculation. The atomic weights are based on the principle of taking oxygen at 100.

French weights and measures are employed throughout the work, a table being given at the end of the volume, to enable the student to make the requisite conversions. We regret to perceive that this trouble is cast upon the English reader, and it is the only fault which we have to find with the translator. If it be necessary to translate foreign *words*, it is surely necessary to translate foreign *weights* and *measures*, which differ so widely from our own as to have nothing whatever in common. It is unmitigated nonsense to talk of the vast arithmetical advantages of a decimal system, when ninety-nine readers out of a hundred would pass over a passage containing untranslated weights and measures, as incomprehensible. Thus we are told the pressure of a gaseous mixture is =757 millimetres. The student must give this up, or be prepared to the great hindrance of his course of thought to work this sum—757×·03937, whereby he arrives at English inches, and there probably asks himself the question why such a task was imposed upon him. The truth must be told; the translation of weights and measures entails a large additional amount of trouble; and to avoid this, the translator falls back upon scientific accuracy and the advantages of the decimal system, &c. &c., leaving the unfortunate reader to struggle through half a dozen long sums in arithmetic, or to give up the whole passage as unintelligible. This defect is, we consider, a great drawback to the publications of the Cavendish and Chemical Societies, as well as to the mode of teaching adopted at the College of Chemistry. Scientific accuracy should always give place to practical utility. It is not likely that the weights and measures now used in medicine and pharmacy will ever give place to those on the French metrical system; and thus the relations of the chemical and pharmaceutical laboratories are completely disarranged by the attempt to introduce such an innovation into this country. We should recommend publishers to come to an understanding with future translators on this subject. They may rest assured that it would be far better to leave a few paragraphs in the original French or German, and refer the reader to the use of his dictionary, than to give him many long sums in decimals to work through before he can understand a page.

These remarks must be considered as general, and not specially applicable to the translation before us. In this work the reader does not meet with so many references to foreign weights and measures as to create any serious obstacle to his progress. Rose's Practical Treatise, in its new form, will be acceptable to all practical chemists. We know of no other work in the English language which can compete with it.

Practical Introduction to H. Rose's Treatise on Chemical Analysis: illustrated by Synoptic Tables and numerous Formulas. By A. NORMANDY. 8vo. London: Tegg and Co. 1848.

IN our review of the first volume of Rose's Treatise,* we adverted to the omission of a short summary of the most important characters of substances requiring analysis. Mr. Normandy has here supplied this omission, and has at the same time furnished the junior student with an excellent compendium of practical chemistry. The plan adopted is novel, but very clear and satisfactory. The work is divided into numbered paragraphs, but it is not paged. In the testing of salts, for instance, the body to be tested is in capitals, the tests are placed in a column in italics, and the results are noted at the side, with such explanations as may appear necessary. This volume is not only what it professes to be—an introduction to Rose's Treatise—but it is a useful compendium for the chemical laboratory.

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* MED. GAZ. vol xli. p. 206

Proceedings of Societies.

ACADEMY OF SCIENCES, BERLIN.

On the Specific Gravity of Magnesia.

By Professor H. Rose.

It is very difficult to obtain with exactitude the specific gravity of calcined magnesia. The results I have obtained do not accord the one with the other, and the alkali submitted to different temperatures presents densities varying much from each other. In consequence of this I submitted magnesia to the action of a porcelain furnace, by which it acquired some very remarkable properties. By reason of the elevated temperature, the platinum crucible became oxidized at the points where it was in contact with the magnesia, and the latter in consequence assumed a brown colour. It is easy to separate these brown particles from those which remain pure. To the microscope this magnesia presents the appearance of an assemblage of small crystals; with the acids it at first appeared to be completely insoluble, and it was not until after long-continued treatment by them that the magnesia was dissolved. The time required for complete solution was considerable. It presented the specific gravity of 3·644. In this state the magnesia resembled that which is contained in the interesting mineral discovered at Vesuvius by M. Zacchi, to which he gave the name of Periklas, and which is indebted for its green colour to protoxide of iron. M. Zacchi states its specific gravity to be 3·75. If we suppose the atomic weight of magnesia to be 258·14, and its specific gravity 3·644, its atomic volume will then be represented by 71.

Amongst the oxides composed of one atom of metal and one atom of oxygen, there are few which, with respect to density, can be compared to magnesia, which at a high temperature assumes the crystalline form. M. Geuth has examined a crystallized metallic oxide of nickel, which he had extracted in the treatment of some copper ore, and which had consequently been submitted to a high temperature. This oxide also was distinguished for its feeble solubility in the acids, and its crystallization like the periklas in regular octohedra. M. Geuth found its specific gravity equal to 5·745, whence there would result an atomic volume of 81·7, not very far removed from that of crystallized magnesia. I requested M. Geuth to repeat his investigation of the specific gravity of the remarkable oxide of nickel which he had discovered. His further researches shewed that this was as high as 6·605, whence results the same atomic volume as that furnished by crystallized magnesia—viz. 71. There exists, therefore, a remarkable agreement in the atomic volume of magnesia and the oxide of nickel.

On the employment of arsenic in agriculture. [From our Foreign Correspondent.]

Public attention having been drawn to this subject, by a letter addressed to the leading medical journals, by Dr. Fuller, of St. George's Hospital, in which he points out the great danger that may arise from eating game, the death of which has been caused by feeding on grain steeped in a solution of arsenic for the purpose of preventing the disease called "smut," I hasten to communicate some remarks on this subject, founded on the results of investigations made by a commission appointed at Rouen, in 1842, composed of agriculturists and chemists, and having for its object to ascertain the best process for preventing the smut in wheat, and to determine whether other means less dangerous than arsenic and sulphate of copper (both extensively employed for this purpose in Great Britain) might be beneficially employed. Personally acquainted with one of the members of the commission, I feel fully satisfied of the correctness of the data given, the more especially as the experiments were repeated, and the same results obtained in two successive years. My friend, M. Girardin, of Rouen, professor of chemistry, and corresponding member of the institute, took an active part as a member of that commission, and it is to his kindness that I am indebted for the following information. The labours of the commission extended over the years 1843, 1844, 1845, and the experiments were conducted on the farm of M. Fauchet, at Boisguillaume, in the department of the Seine Inferieure.

As long since as the year 1779, M. Duhamel du Monceau, in his Elements of Agriculture, noticed the employment of arsenic by the farmers of France, for the prevention of smut; and whilst speaking of the dangers arising from the use of arsenic for this purpose, expressly pointed out the danger arising from pigeons, partridges, and other birds eating the poisoned seeds, and thus endangering the lives of those who fed on them.

It would appear that in the ten years from 1830 to 1840, there occurred in France 235 public accusations of poisoning, out of which number, 110 were against individuals connected with agricultural pursuits, and it was considered that this arose from the readiness with which they were enabled to obtain poison, especially arsenic, for the purpose of steeping grain.

As you doubtless would not be able to spare room in the pages of your journal for a detailed account of the operations of the commission, I will confine myself to a notice of the experiments tried, and the conclusions arrived at from these experiments.

The wheat selected for the purpose of trial was red Scotch wheat, of the harvest of 1843 and 1844, thoroughly sound, and not in the slightest degree tainted with smut. A quantity of smut was then procured, with which the good wheat was completely saturated, in such a manner that the particles of smut attached themselves to the healthy grains of wheat, and communicated the disease to them. A piece of ground was selected, from which had previously been taken a crop of potatoes, and divided into thirteen parcels of ten square metres each. The piece of ground was level, and of the same nature through its whole extent. Each parcel was separated from its neighbour by a strip of ground which was kept uncultivated whilst the experiments were in progress. They were each sown early in November, in favourable weather, with the same quantity of grain—viz. three decilitres.

At the end of the September following, the produce of each parcel was harvested separately, and full particulars as to quantity, quality, &c. &c. noted down.

Now for the conclusions of the commission, derived from the results of these experiments:—

1. That sulphate of copper is one of the most powerful means for the prevention of smut.

2. That lime produces very little effect, and its use is even less advantageous than simply washing the seed in water.

3. That common salt exerts a very marked influence, as the substances with which it is associated acquire more decided and beneficial action than they possessed naturally: for instance, lime then becomes very efficacious, and sulphate of copper produces better results than when employed singly.

4. *That arsenic does not possess anything like the destructive action on the smut which is generally supposed.*

5. That the mode of steeping in a preparation of sulphate of soda and lime, as first proposed by M. Mathieu de Dombasle, is really very efficacious.

Again, the following conclusions were drawn from the experiments:—

1. That in all respects it is advantageous to employ only sound wheat for seed.

2. That the wheats *least* productive of grain were those which were steeped in *arsenic*, lime and salt, and lime alone.

3. That the wheats *most* productive of grain were those which were washed with water treated with sulphate of copper, sulphate of copper and salt, *sulphate of soda and lime.*

4. That although the washing with water appeared favourable as to the produce of grain, the grain produced was very light in weight.

5. That the heaviest wheat in proportion to the volume was, in the first place, from that seed which had undergone no preparation, and, in the second place, from that prepared with *sulphate of soda and lime.*

Again, the Commission stated—

1. That it is best not to sow seed without previous steeping.

2. That the use of the sulphate of soda and lime process is recommended, inasmuch as it is more simple and economical, and in no wise injurious to the health of the sowers, or inimical to the public health, and that it yields the most productive and soundest wheat.

3. That as arsenic, sulphate of copper, verdigris, and other poisonous preparations, can be advantageously replaced by sulphate of soda and lime, the use of the poisonous preparations should be interdicted by the government. The question having next arisen—"Does arsenic exist in wheat the produce of seed steeped in arsenic?" my friend Girardin undertook a very careful and searching investigation of the subject; the more necessary, since M. Audouard, jun., of Béziers, had affirmed that he had discovered arsenic in wheat and straw the produce of seed steeped in arsenic. MM. Orfila, Chevallier, Soubeiran, Peltier, and others, denied the presence of arsenic in such wheat.

M. Girardin proceeded in his analysis as follows:—"I heated, at a moderate temperature, several kilogrammes of wheat (the produce of the parcel of ground in which the arsenically-prepared seed was sown) with pure sulphuric acid, until the tissue of the grain was completely disorganized. This operation required several days, but might have been abridged by bruising the grains. I then boiled the carbonaceous magma with a sufficient quantity of pure nitric acid, and decanted the acid liquor. The carbon was thoroughly washed with distilled water several times, and these waters mixed with the nitric acid: the whole was then concentrated with successive additions of small quantities of chlorate of potash until the liquor was perfectly colourless. This liquor, reduced to a small compass, was then boiled with pure sulphuric acid, to remove the compounds of nitrogen and chlorine. It was then subjected to the action of Marsh's apparatus, but no trace of arsenic could be discovered.

I then again took the carbonaceous mass which I had previously well washed with nitric acid and water, and incinerated it in a new crucible with an excess of pure nitre. The saline residuum dissolved in water was decomposed by sulphuric acid; the resulting liquor, introduced into Marsh's apparatus, gave no trace of arsenic.

I repeated these experiments several times, varying the modes of treatment, and always operating on at least two kilogrammes of wheat, yet I never found the least trace of arsenic. I therefore affirm that the wheat steeped in arsenic, and sown in one of the parcels of ground by the Commission, produced grain entirely free from arsenic.

I then proceeded to examine the wheat produced from the seed steeped in sulphate of copper, with the view of ascertaining if there existed in it any traces of that metal. It is well known, from the researches of MM. Springer, Boutigny, and Vever, that plants cultivated in a ground which has received small quantities of sulphate of copper, were found on examination to contain copper. Consequently I incinerated several kilogrammes of wheat, the produce of the parcel of ground in which the seed steeped in sulphate of copper had been sown. I then thoroughly washed the ashes with boiling nitric acid, and evaporated the liquors to dryness. The residue was treated with a small quantity of water; and in this liquor, slightly acidulated, I placed a large steel needle for twenty-four hours. At the end of this time I found the needle covered with a reddish coating, which, on being detached and submitted to the action of appropriate reagents, was found to afford a sensible quantity of copper."

The wheat obtained from the seed not steeped in any preparation, gave, when treated by the same process, only very insignificant traces of copper. Whilst, then, the wheat from seed treated with arsenic gave no indications of its containing a trace of that metal, the wheat the produce of seed steeped in sulphate of copper was found to contain a *very sensible* proportion of copper.

PARIS ACADEMY OF SCIENCES.

Sitting of December 11.

M. MALAPERT, surgeon to the military hospital at Rochelle, read a paper "On the action of an aqueous solution of hydrate of potash in the mucous membrane." From a consideration of the cases cited by him, M. Malapert states the following uses of this remedy:—To promote discharges from the mucous membranes, when attacked with inflammatory fulness (engorgement) by provoking sometimes in this case a slight lymphatico-sanguineous exudation which immediately follows cauterization; to modify in a favourable manner the ulcers and ulcerations which appear on their surface, and to lead them after discharging to a prompt cicatrization; to reduce not only the fulness of the mucus which covers the amygdalæ, but also to reduce the swelling of these glands, arising either from acute or chronic inflammation, which last might be of a syphilitic nature; to produce the reduction of small tumors, pustules, and excrescences, which appear on the accessible points of the internal integuments; to produce by its prolonged application and regulated dose on the external integument a more powerful revulsion than that arising from the action of blisters, or even of cauterization.

M. Leroy of Etiolles presented a communication, containing various observations proving the possibility of extracting from the bladder, by the ordinary operations of lithotrity, other solid bodies besides the stone. Amongst other facts, M. Leroy cites that of a large splinter of bone extracted from the sacrum, and forced into the bladder by a ball which had traversed it. This splinter was reduced to small fragments before the extraction was made. M. Leroy employed in this operation an instrument similar to the double stone crusher, in which was enclosed a kind of knife acting by percussion.

December 18.

On the Absorption of Virus.

On this subject a communication was presented from M. Renault. After having shewn the uncertainty which characterized the scientific data of which we are at present in possession, relative to the length of time which elapses between the moment when the morbid contagious secretions, known under the name of virus, are deposited on an absorbing surface, and the time when carried by absorption into the general circulatory system, they infect the entire economy, M. Renault proceeded to give an account of a double set of experiments which he had tried for the purpose of throwing light on question, with the virus of a glandered horse, and that of a scabby sheep. The virus was first deposited under the epidermis by a real inoculation; after the lapse of a certain time, which was more and more shortened, M. Renault destroyed by cauterization the point of the dermis at the surface of which the inoculation had been made, taking the greatest care to place the animals experimented on in such conditions as should assure and guarantee the correctness of the results.

Thirteen horses were submitted to the action of the glanderous virus. Two were cauterized 96 hours after inoculation. These two animals died of the glanders, the one twelve days, the other eight days, after inoculation. The other eleven were cauterized 50, 24, 10, 8, 6, 5, 4, 4, 3, 2, and 1 hours after inoculation. All took the disease after an interval of time which varied from six to twenty days.

The experiments made on 22 sheep with scabby virus, gave the following result:—The one which was cauterized the longest time after inoculation was 11 hours; the others 10½, 10, 9, 8, 7, 6, 5, 4, 3, 2 and 1 hours after inoculation; then 36, 30, 25, 20, 15, 13, 12, 10, 8, and lastly, five minutes after inoculation. In the case of either of these animals, cauterization of the part inoculated did not prevent the absorption of the virus. It follows, then, from these experiments, that the glanderous virus is absorbed within one hour, and that from the scab within five minutes, when placed in contact with the absorbing surface of the skin. Δ

Correspondence.

CASE OF ASIATIC CHOLERA—RECOVERY.

G. M., mate of a Newcastle trading vessel, now lying off the Tower, was attacked on Tuesday last with diarrhœa, accompanied by pain in the bowels, and on the following morning, very foolishly drank a cup of small beer, which so increased the purging, &c., that the commander of the ship sent for me, and on my arrival on board, I found him exactly in the following condition:—The pulse scarcely perceptible; the surface of the body very cold; the hands blue in appearance and shrivelled. The countenance not so bad as I believe it frequently is. Incessant vomiting and purging of a fluid like thin barley water, with shreds of rice in it; horrible cramps in stomach, abdomen, arms, and legs, which caused the poor man to cry out piteously. No urine had been secreted for some hours. To restore warmth to the surface, and relieve the cramps, I immediately applied a very large mustard poultice over the abdomen and stomach, and had his feet, legs, and thighs rubbed with strong mustard and water; then went home and prepared the following medicine:—Chloroform, ♏xxv. Aquæ, ℥iv. a third part to be given directly, with a tablespoonful of brandy; together with a pill containing two grains of opium, and three of calomel—the draughts and pill to be repeated in half an hour if the vomiting, &c., continue; and I further directed that he should be well rubbed with a liniment of turpentine and opium. I saw him again in an hour, when I found him somewhat relieved. The sickness was less violent, and the cramps also.

The next day he was still sick, and purged, but the evacuations were slightly tinged with bile. The pulse feeble, skin not very warm. The liniment to be continued. A mustard poultice to be reapplied, and a chalk mixture, with ammonia, to be taken every three hours, with a grain of opium, and one of calomel; no urine had been secreted. On Friday I found him still very sick, and much purged—no cramp. I gave him five drops of dilute hydrocyanic acid, with a little sesquicarbonate of soda and water every three hours, and a pill, with a grain of opium. In the evening I found that the sickness was greatly relieved, and the purging less, and he was able to retain a little beef-tea (in which rice had been boiled) on the stomach, but he assured me he had not passed a drop of urine.

On Saturday he had a chalk mixture, with ℥ss. of Spt. Æth. Nit. in it, of which he took a fourth part every three hours; and about 1 A.M. on Sunday, he for the first time since Tuesday, voided urine freely. And yesterday, as he seemed a good deal better, and as the vessel was about to sail to-day, he was conveyed to the Hospital ship, and, although he seemed there to be feverish, the purging and vomiting had ceased, and I should hope he will do well.

I should have mentioned that he suffered from intolerable thirst throughout, and that I allowed him to drink plentifully of water, and weak brandy and water. Whether the relief experienced from the first medicine is attributable to the chloroform, or to the opium, or both combined, it is impossible to say, but I think it is most likely that the former assisted in restoring warmth to the surface, though the man referred the benefit he derived from the treatment chiefly to the mustard application.

Your obedient servant,
R. T. Wylde.

34, Seething Lane, London,
December 18, 1848.

Medical Intelligence.

THE CHOLERA IN CONVICT SHIPS.

The Hasemey convict ship arrived at Portsmouth on the 17th inst. from the river, with 230 convicts for New South Wales from the hulks at Woolwich. On the passage the cholera broke out, the first case being that of a boy, aged about 14, which terminated in death in four hours and a half. Four other cases have made their appearance. Dr. Jamieson, surgeon of the Victory, was sent on board by the Commander-in-chief this morning to render additional assistance, and to report the extent of the infection. Diarrhœa is also prevalent on board. The sick are ordered to be removed from the Hasemey to the Menelaus lazaretto at the Motherbank.

Two more cases of cholera have occurred since Monday night in the Hasemey convict ship, which has been this afternoon removed from Spithead to the quarantine-ground at the Motherbank, where she now remains with the yellow flag flying. Two medical men have been sent from London to render additional aid. Messrs. Garratt and Gibbon, the agents to Lloyd's at this port, are indefatigable in their exertions to render aid and to afford as much relief as possible, but their kindness is frustrated in a great measure by the mystery and closeness preserved by the officials. As near as could be ascertained up to this time, about thirty cases of sickness are on board, several with cholera, others with diarrhœa and bowel complaints. In the three fatal cases, death ensued in a few hours after attack.

THE CHOLERA IN LIVERPOOL.

There have been several cases of cholera in Liverpool, and all the patients have died, or are in a likely way to die, with two exceptions. The report of the London Board of Health on Wednesday included seven cases and six deaths from Liverpool. One of the exceptions is that of Mr. Ainsley, of No. 14, Great Nelson Street North, who has perfectly recovered from the disease.

THE CHOLERA IN IRELAND.

It is reported that this disease has broken out in a most aggravated form in the Belfast Union Workhouse. Eight fatal cases, including three which have been already announced by the medical authorities, all of them fatal, have broken out, and of these, four occurred on Saturday and Sunday morning, among the children in the nursery-ward, where it appears the disease has located itself. These cases were at once removed to the Fever Hospital, and the most approved methods of treatment were carried out by Mr. Black, the resident surgeon, under the superintendence of Dr. S. Reid, the able physician to the hospital, but unfortunately in vain. We are glad to announce that no new cases had occurred from an early hour on Sunday morning till a late hour last night. We have heard that the Board of guardians have determined to associate themselves into a Board of health, and to rent a cholera hospital in some central part of the town.

THE CHOLERA IN GLASGOW.

We regret to find from the reports in the Scotch newspapers that the cholera is now very prevalent in Glasgow, and attended with great mortality.

THE CHOLERA IN POLAND.

According to the official reports from the Polish journals, the number of cholera cases which occurred in the kingdom of Poland from the 3d of August, being the first day of its appearance, to the 13th of November, is as follows:—Government of Warsaw—cases, 3,980; recovered, 2,343; died, 1,581. City of Warsaw—cases, 9,497; recovered, 3,583; died, 5,260. Lublin—cases, 13,710; recovered, 2,327; died, 5,966: Radom—cases, 2,071; recovered, 686; died, 1,119. Plock—cases, 6,301; recovered, 2,530; died, 3,491. Augustow—cases, 7,583; recovered, 4,460; died, 2,559. Total number of cases since commencement of disease officially reported throughout the kingdom of Poland, 39,162; total recovered, 18,586; deaths, 18,395.

THE CHOLERA AND QUARANTINE.

The cholera had made its appearance on board the packet New York, from Havre, on her passage to New York. She had been placed in quarantine. Out of 18 cases 14 were fatal; it was confined, however, to the steerage passengers of that ship.

SANITARY WORK BY MEDICAL MEN WITHOUT REMUNERATION.

The medical practitioners of the City Unions have very properly refused to take upon themselves additional work without a proper remuneration for the same. At a recent meeting of the Commissioners of Sewers, Mr. Simon, the officer of health, stated that though the City was still free from cholera, the disorder was spreading towards it. He also stated that he had received a communication from the various medical officers of the unions, stating that they would furnish the reports required by him if they were recognized as district sanitary officers by the Court, and allowed a salary of £50 each. The communication of the medical officer was referred to the select committee.

UNIVERSITY OF LONDON.

Number and Average Age of Candidates for Matriculation, and the Degrees of Bachelor and Doctor of Medicine, as well as the number that have passed each examination, in each year.

	Bachelor of Medicine.								Doctor of Medicine.			
	First Examination.				Second Examination.							
	No. of Candidates.	No. passed.	Average Age of Candidates.		No. of Candidates.	No. passed.	Average Age of Candidates.		No. of Candidates.	No. passed.	Average Age of Candidates.	
			Yrs.	M.			Yrs.	M.			Yrs	.M.
1838												
1839	25	16			10	9			2	2	27	6
1840	49	38			20	19			1	1	29	0
1841	80	50			21	18			7	7	31	1
1842	32	25			23	19			5	5	26	5
1843	41	21	23	6	22	21			4	4	25	0
1844	35	26	22	1	22	20			14	14	28	2
1845	33	18	23	2	17	16	24	6	10	10	27	4
1846	31	26	22	6	14	13	25	5	13	11	29	0
1847	33	24	24	2	21	20	23	8	9	9	27	5
1848	41	27	22	10	24	20	26	6	12	11	30	5
	400	271	23	1	194	175	25	1	77	74	28	2
			6 years.				4 years.				10 yrs.	

PROMOTIONS IN THE ARMY—MEDICAL APPOINTMENTS.

Assistant-Surgeons.

64th Foot.—Assist.-Surg. William Henry Short, from the Staff. Assist.-Surg. Andrew Leith Adams, M.D., from the 82d Foot.

70th Foot. — Assist.-Surg. Deodatus William Eaton, from the 34th Foot. Acting Assist.-Surg. Christopher Bakewell Bassano.

83rd Foot.—Assist.-Surg. William Nettleton Boyce, from the Staff. Acting Assist.-Surg. James Hamilton Bews.

97th Foot.—Lieut. George Webb, from half-pay of the 21st Foot, to be Lieut., vice M'Crea, appointed to the 64th Foot.

Hospital Staff.

Inspector-General of Hospitals, with local rank, John Davy, M.D., to be Inspector-General of Hospitals.

Deputy-Inspector-General of Hospitals Alexander Stewart, M.D., to be Inspector-General of Hospitals in the Windward and Leeward Islands only, vice John Davy, M.D., who retires upon half-pay.

Staff-Surg. of the First Class William Munro to be Deputy-Inspector-General of Hospitals, vice Stewart.

Surg. William Bain, M.D., from 34th Foot, to be Staff-Surg. of the First Class, vice Munro.

Surg. Henry Pilleau, from 70th Foot, to be Staff-Surg. of Second Class, vice Thomas Lewis, M.D., who retires upon half-pay.

Surg. Henry Mapleton, M.D., from 40th Foot to be Staff-Surg. of Second Class, vice Gordon, appointed to 57th Foot.

Staff Assist.-Surg. James Alexander Fraser, M.D., to be Staff-Surg. of the Second Class, vice Smith, appointed to the 2d Foot.

Staff Assist.-Surg. Sandford M'Vittie Lloyd, M.D., to be Staff-Surg. of the Second Class, vice Denny, appointed to 34th Foot.

Acting Assist.-Surg. Nicolson Colin Mackenzie, M.D., to be Assist.-Surg. to the Forces, vice Fraser.

Joseph Farmer Matthew, gent., to be Assist.-Surg. to the Forces, vice Lloyd.

Memoranda.

Assist.-Surg. to the Forces William Smellie Johnstone, M.D., has been permitted to resign his commission.

Acting Assist.-Surg. Thomas Manners to be Assist.-Surg. to the Forces, vice Short, appointed to the 64th Foot.

Grahame Auchinleck, M.D., to be Assist.-Surg. to the Forces, vice Boyce, appointed to the 83d Foot.

CONSUMPTION OF COD LIVER OIL.

Mr. Rose, Secretary to the Hospital for consumption, at Brompton, states in a letter to the *Times*, that the quantity of cod liver oil dispensed to the out-patients weekly, amounts to *five gallons*.

MEDICAL APPOINTMENT—SUSSEX COUNTY HOSPITAL, BRIGHTON.

Dr. George S. Jenks, Fellow of the Royal College of Physicians, has been unanimously elected a Physician of this Institution, in the room of Dr. Blair, resigned.

PRESIDENT OF THE POOR LAW BOARD.

It is reported that Mr. Baines, Q.C., will suceced the late Mr. C. Buller as President of the Poor Law Board.

THE FELLOWSHIP OF THE ROYAL COLLEGE OF SURGEONS.

At a meeting of the Council of the College, on the 14th inst., Mr. Owen Richards, of Bala, Merionithshire, was admitted a Fellow.

ROYAL COLLEGE OF SURGEONS.

The following gentlemen were admitted members on the 22d inst.:—Messrs. H. Hooper—E. Marshall—M. L. Manthorp—J. A. Bran—D. P. Morris—H. A. Mantell—F. M'Aree—E. Waylen—F. Hodson—F. W. Dix.

APOTHECARIES' HALL.

Names of Gentlemen who passed their examination in the science and practice of medicine, and received certificates to practise, on Thursday, 21st December, 1848:—Robert Ingram Stevens, London—James Bernard Ruck, Prestbury, near Cheltenham—William Henry Slade, Frome—John Marsh, Mansfield, Notts—Robert Savignac Stedman, Great Bookham, Surrey—Thomas Coutts Morrison—George Beck, Harpley, Norfolk—Pryce Jones, Helmston, North Hunts—Nicholas Marsh, Liverpool—George Carfrae Hope, London—Frederick John Earle, Winchester — Thomas Blanshard, Selby, Yorkshire—Philip James Elborough—Samuel Weston Devenish, Weymouth—Banfield Teague Vivian, Crowan, Cornwall—Frederick William Armstrong Rawlins, Congleton, Cheshire.

OBITUARY.

On the 15th inst., at his residence, 28, Albemarle Street, from a sudden and fatal attack of apoplexy on the previous day, John Harris, Esq., M.D. (Cantab.), and Fellow of the Royal College of Physicians.

On the 20th inst., at Brighton, Sussex, George Drysdale, Esq., M.D. R.N. in his 67th year.

On Tuesday, the 19th inst., at his residence, Suffolk Square, Cheltenham, William Greaves, late of Mayfield Hall, in the county of Suffolk, Esq., M.D., one of Her Majesty's Justices of the Peace for the counties of Stafford, Derby, and Gloucester, in his 78th year.

On Tuesday last, at his house in St. Aldate's, Oxford, Charles Lewis Parker, M.A., of Wadham College, surgeon to the Radcliffe Infirmary.

On Wednesday, the 20th inst., Thomas South, Esq., surgeon, of Judd Street, Brunswick Square, aged 49.

At Bowenpilly, Secunderabad, East Indies, on the 28th of October, of fever, John Field, Esq., veterinary surgeon to the 3d Light Cavalry, the Hon. East India Company's Service, in the 26th year of his age.

On Friday, the 22d inst., at his residence, 1, Woburn Place, Russell Square, in the 63d year of his age, Dr. Prichard, formerly of Bristol, Commissioner in Lunacy.

Selections from Journals.

IMPORTATION OF THE CHOLERA INTO ALGERIA. THE CHOLERA NOT TO BE KEPT OUT BY QUARANTINE.

According to Dr. Audouard, who observed the progress of cholera in Algeria in 1835, the disease was introduced by merchandize into the town of Constantine. In 1837, when the disease reappeared, it was at the conquest of that town by the French, who introduced it there through the twelfth regiment of the line lately arrived at Marseilles, where the cholera then raged. The army returned to Bona, whence the cholera spread among the patients of the hospital into which the sick and wounded were received.

A remarkable case of the importation of the disease was furnished by the Triton, a French ship of the line. One of the marines passed the night at Rous, where the cholera then prevailed, returned on board the Triton, and died of cholera the next day. The Triton put to sea but a few days after the cholera appeared on board. There were eighty-eight cases, of whom forty-five died. Dr. Audouard noticed other parallel instances which convinced him of its importation into the various sea-ports on the coast.—*Comptes Rendus*, 1848. x

⁂ It is very evident from this and many similar facts, that the cholera cannot be kept out of a country where there is no quarantine, or where, what is worse, the regulations are inefficiently carried out.

THE USE OF OPIUM IN HÆMORRHAGE AFTER DELIVERY.

It should be held as an inviolable rule, never to abandon a case of hæmorrhage so long as life remains; for it is astonishing out of what an apparently hopeless condition these patients may sometimes be recovered by the judicious and persevering employment of restorative means. Where the vital powers are reduced to a very low ebb, brandy and opium are the two remedies upon which most confidence is to be placed for combating the effects of the hæmorrhage, and sustaining the vital energies. Respecting the exact time for having recourse to the opium, it must be apparent that this will depend entirely on the object for which it is given, and the effects which we consider it capable of producing. An opinion is generally entertained that it possesses qualities which render it eminently useful in counteracting the immediate effect of excessive losses upon the system, and in supporting the vital powers under that debility which always follows inordinate flooding; but whether, or how far, its administration, pending the hæmorrhage, can have any influence in controlling it, does not seem to be so positively determined, though certainly the weight of authority is on the negative side. In the Hospital it was usually exhibited as soon as any alarming symptoms of prostration began to be developed; but these rarely arise before the violence of the hæmorrhage has been subdued, and some degree of uterine action induced. The presence of much restlessness or inquietude was looked upon as a prominent indication for giving this medicine, and we have seldom seen any benefit from the use of opium until it had allayed this symptom. The necessity for a repetition of the dose was also judged of by the pulse and general state of the patient. The quantity of opium taken under these circumstances was sometimes very great, much more than could have been borne with impunity by one in health. We have never observed, however, any unpleasant or evil consequence from the practice, except headache, which a cup of strong coffee generally relieved.—*M'Clintock and Hardy's Practical Observations*, p. 131.

ON THE USE OF KREOSOTE IN ERYSIPELAS.

BY P. FAHNESTOCK, M.D., OF PITTSBURGH, U.S.

Allow me to state that, during a practice of many years, I have been in the habit of using kreosote in erysipelas in the face, (as well as on all other parts of the body,) in both its simple and phlegmonous forms, confining my local treatment to this article alone. And such has been the success of this treatment, that I have as yet to witness a case which has not yielded to it.

In every case of local erysipelas I immediately apply the purest kreosote with a camel's hair brush over the whole of the affected surface, extending it some distance beyond the inflamed part, and at the same time administering a dose of chlor. hydrarg. followed by a sufficient portion of jalap to insure free catharsis. This, in the majority of cases, is all I find necessary. But when the mucous membrane of the mouth and fauces is also affected, I pencil those parts with a strong solution of the nit. argent., say from ʒss. to ʒi. to ℥i. of distilled water.

In the phlegmonous form it will be found necessary to repeat the application more frequently than in the simple, with the addition of a bread and water poultice, applied nearly cold and well sprinkled with water strongly impregnated with the kreosote, or a cloth, kept constantly wet with the solution, especially for the face.

The kreosote when applied, should cause the parts to become white immediately. If this does not occur, it is not pure. Thus you will perceive that success depends upon having the best quality of oil. It is worthy of remark that the skin does not become in the least marked by the application, no matter how often it is applied.

I was first induced to make a trial of this remedy, by a remark made by Dupuytren in the small pamphlet which fell into my hands, in which he supposed it might be a good remedy in this disease.

The result of an extensive and exclusive use of this article in erysipelas, has induced me to place the most implicit confidence in it; and all I ask of the profession is a fair trial for it, confident that whoever once tries it, will abandon all other articles in its favour.—*American Journal of Med. Sciences.*

PRURITUS OF THE VULVA.

This is often a very troublesome affection, and frequently connected with a leucorrhœal discharge, or with an aphthous state of the vulva and lower part of the vagina, or with a state resembling an eruption of small papulæ. It is generally referable to the active vascular determination to the sexual organs, consequent upon impregnation.

Treatment.—Lotions of acetate of lead, or of nitrate of silver, have usually been prescribed for this affection. I have generally added a little vinum opii to these. Lotions, consisting only of tar-water, will generally prove efficacious. In the summer of 1826 I was consulted by a surgeon in an obstinate case, for which the usual means had been employed. I advised a saturated solution of borax in rose-water; and this proved successful. Since that time I have generally prescribed this substance for similar cases. Dr. Churchill states, that a decidedly antiphlogistic treatment may sometimes be required—as venesection, leeches applied to the vulva, and one or two smart purgatives.—*Copland's Dictionary of Practical Medicine.*

BOOKS & PERIODICALS RECEIVED

DURING THE LAST TWO WEEKS.

Hooper's Medical Dictionary. 8th edition, by Klein Grant, M.D.

The Journal of Health and Disease. Vol. IV. No. 6.

The Serpentine as it is, and as it ought to be; and the Board of Health as it is, and as it ought to be. By E. J. Tilt, M.D.

The Medical Practitioner's Visiting List for 1849. (Smith, Long Acre.)

The British Record of Obstetric Medicine.

Dr. Collins's Letter to Professor Simpson, of Edinburgh, in Reply to his Letter to Dr. Collins's Second Letter.

Cancerous and Cancroid Growths. By Dr. J. H. Bennett, Edinburgh.

Oppenheim's Zeitschrift für die gesammte Medicin. Nos. 3, 10, and 11.

Casper's Wochenschrift für die gesammte Heilkunde. Nos. 48, 49.

The Retrospective Address on Diseases of the Chest. By E. J. Shearman, M.D.

On the Use of Chloroform in Dental Surgery. By J. C. Clendon.

Journal de Pharmacie et de Chimie. Dec.

A Critical Treatise on the General Paralysis of the Insane. By J. W. Winn, M.D.

A Treatise on the Cause, Nature, Seat, &c. of Cholera. By James Shaw, C.E.L.L.

Odd Fellowship as it is and ought to be. By J. C. Hall, M.D.

METEOROLOGICAL SUMMARY.

Mean Height of the Barometer .... 30·01
" " " Thermometer[a] ...... 37·5
Self-registering do.[b] .... Max. 62·8 Min. 18°

[a] From 12 observations daily. [b] Sun.

Rain, in inches, 0·07.—Sum of the daily observations taken at 9 o'clock.

Meteorological.—The mean temperature of the week was 2·3° below the mean of the month.

BIRTHS & DEATHS IN THE METROPOLIS

During the Week ending Saturday, Dec. 23.

Births.		Deaths.		*Av. of 5 Aut.*	
Males....	774	Males....	567	Males....	581
Females..	747	Females..	551	Females..	573
	1521		1118		1154

Causes of Death.		*Av. of 5 Aut.*
All Causes	1118	1154
Specified Causes	1116	1149
1. *Zymotic* (or Epidemic, Endemic, Contagious) *Diseases*..	381	270
Sporadic Diseases, viz.—		
2. Dropsy, Cancer, &c. of uncertain seat	46	52
3. Brain, Spinal Marrow, Nerves, and Senses	113	137
4. Heart and Bloodvessels	29	38
5. Lungs, and other Organs of Respiration	177	222
6. Stomach, Liver, and other Organs of Digestion	57	67
7. Diseases of the Kidneys, &c...	14	12
8. Childbirth, Diseases of the Uterus, &c.	11	14
9. Rheumatism, Diseases of the Bones, Joints, &c.	10	8
10. Skin, Cellular Tissue, &c.	1	2
11. Old Age.....	39	64
12. Sudden deaths	12	
13. Violence, Privation, Cold, and Intemperance	44	32

The following is a selection of the numbers of Deaths from the most important special causes:

Small-pox	24	Paralysis	18
Measles	14	Convulsions	34
Scarlatina	105	Bronchitis	68
Hooping-cough ..	42	Pneumonia	83
Diarrhœa	15	Phthisis	113
Cholera	31	Dis. of Lungs, &c..	13
Typhus	46	Teething	9
Dropsy	18	Dis. of Stomach, &c.	5
		" Liver, &c...	12
Hydrocephalus....	38		
Apoplexy..........	36	Childbirth	7

Remarks.—The total number of deaths was 36 below the weekly average. See page 1098.

NOTICES TO CORRESPONDENTS.

Dr. Winn's note has been received. We will endeavour to comply with his request.

We have received two letters, the one in reference to the Sydenham Society, while the other relates to the mode of electing members of council at the Royal College of Surgeons. We have to request that the writers will forward their names, not necessarily for publication, but as a guarantee of the authenticity of their communications.

The letter of Mr. A. Ebsworth has come to hand.

The correspondence forwarded by the Committee of Poor-Law Medical Officers will be inserted next week.

Dr. J. C. Hall's note and pamphlet have been received.

Corrigendum.—In the concluding line of Mr. Robinson's letter, page 1065, of our last number, instead of "than with gold," read "with gold." The error was in the MS. copy of Mr. Robinson's letter.

THE GENERAL INDEX.

We have to announce to our Subscribers that a General Index to the *first* 40 *Volumes* of the London Medical Gazette will, it is calculated, form a large Volume of about 700 pages. The cost of the Index Volume, respecting which many inquiries have been made, will be Twenty-four Shillings; and it is proposed to commence it so soon as the Names of *Five Hundred Subscribers* have been obtained.—The printers, Messrs. Wilson and Ogilvy, 57, Skinner Street, will receive the Names of Subscribers.

INDEX TO VOL. VII. OF THE NEW SERIES.

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Lect. 31.—Orbital region (continued) Diseases of the eyelids; tissues entering into their composition. Suppuration in the eyelids. Obstruction of punctum lachrymale. Ecchymosis; treatment. Entropium; its effect. Ectropium; comparative inconvenience and danger to the eye; operation for entropium and ectropium. Hordeola or styes. Encysted tarsal tumors; treatment. Wounds of the eye-ball; treatment. Intrusion of foreign bodies; mode of removal.—Diseases of the jaws. Osteo-sarcoma of the jaw; malignant character; extirpation; mode of operating. Tumors from the antrum and upper jaw not always malignant; operation for removal; mode of proceeding; case.—Region of the neck. Character of the neck; anatomical relations. The pharyngeal region; its limits;